APPENDIX F

GENERAL CONSTRUCTION ACTIVITY STORMWATER PERMIT AND TEMPLATE

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5537
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
FAX (916) 341-5543 • Internet Address: http://www.waterboards.ca.gov/water_issues/programs/stormwater/

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITY (GENERAL PERMIT)
WATER QUALITY ORDER 99-08-DWQ

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Secretary for
Environmental Protection

State Water Resources Control Board

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CHECKLIST FOR SUBMITTING A NOTICE OF INTENT

In order for the State Water Resources Control Board to expeditiously process your Notice of Intent (NOI), the following items must be submitted to either of the addresses indicated below:

1._____ NOI (please keep a copy for your files) with all applicable sections completed and original signature of the landowner or signatory agent;

2._____ Check made out to the "State Water Resources Control Board"
See reverse for listing of fees by acre. The fee is based on the "Total Acres to be Disturbed" for the life of the project.

3. _____ Site Map of the facility (see NOI instructions). DO NOT SEND BLUEPRINTS

U.S. Postal Service Address

State Water Resources Control Board
Division of Water Quality
Attn: Storm Water Section
P.O. Box 1977
Sacramento, CA 95812-1977

Overnight Mailing Address

State Water Resources Control Board
Division Of Water Quality
Attn: Storm Water, 15th Floor
1001 I Street
Sacramento, CA 95814

NOIs are processed in the order they are received. A NOI receipt letter will be mailed to the land owner within approximately two weeks. Incomplete NOI submittals will be returned to the landowner's address within the same timeframe and will specify the reason(s) for return. If you need a receipt letter by a specific date (for example, to provide to a local agency), we advise that you submit your NOI thirty (30) days prior to the date the receipt letter is needed.

Please do not call us to verify your NOI status. A copy of your NOI receipt letter will be available on our web page within twenty-four (24) hours of processing. Go to: http://www.waterboards.ca.gov/water_issues/programs/stormwater/databases.shtml to retrieve an electronic copy of your NOI receipt letter. If you have any questions regarding this matter, please contact us at (916) 341-5537.

Construction Annual Fees by Acre

Partial Acreage rounded to nearest whole number

Acres	Fee	21% Surcharge	Total Fee
0	$238	$50	$288
1	$262	$55	$317
2	$286	$60	$346
3	$310	$65	$375
4	$334	$70	$404
5	$358	$75	$433
6	$382	$80	$462
7	$406	$85	$491
8	$430	$90	$520
9	$454	$95	$549
10	$478	$100	$578
11	$502	$105	$607
12	$526	$110	$636
13	$550	$116	$666
14	$574	$121	$695
15	$598	$126	$724
16	$622	$131	$753
17	$646	$136	$782
18	$670	$141	$811
19	$694	$146	$840
20	$718	$151	$869
21	$742	$156	$898
22	$766	$161	$927
23	$790	$166	$956
24	$814	$171	$985
25	$838	$176	$1,014
26	$862	$181	$1,043
27	$886	$186	$1,072
28	$910	$191	$1,101
29	$934	$196	$1,130
30	$958	$201	$1,159
31	$982	$206	$1,188
32	$1,006	$211	$1,217
33	$1,030	$216	$1,246
34	$1,054	$221	$1,275
35	$1,078	$226	$1,304
36	$1,102	$231	$1,333
37	$1,126	$236	$1,362
38	$1,150	$242	$1,392
39	$1,174	$247	$1,421
40	$1,198	$252	$1,450
41	$1,222	$257	$1,479
42	$1,246	$262	$1,508
43	$1,270	$267	$1,537
44	$1,294	$272	$1,566
45	$1,318	$277	$1,595
46	$1,342	$282	$1,624
47	$1,366	$287	$1,653
48	$1,390	$292	$1,682
49	$1,414	$297	$1,711
50	$1,438	$302	$1,740
51	$1,462	$307	$1,769
52	$1,486	$312	$1,798
53	$1,510	$317	$1,827
54	$1,534	$322	$1,856
55	$1,558	$327	$1,885
56	$1,582	$332	$1,914
57	$1,606	$337	$1,943
58	$1,630	$342	$1,972
59	$1,654	$347	$2,001
60	$1,678	$352	$2,030
61	$1,702	$357	$2,059
62	$1,726	$362	$2,088
63	$1,750	$368	$2,118
64	$1,774	$373	$2,147
65	$1,798	$378	$2,176
66	$1,822	$383	$2,205
67	$1,846	$388	$2,234
68	$1,870	$393	$2,263
69	$1,894	$398	$2,292
70	$1,918	$403	$2,321
71	$1,942	$408	$2,350
72	$1,966	$413	$2,379
73	$1,990	$418	$2,408
74	$2,014	$423	$2,437
75	$2,038	$428	$2,466
76	$2,062	$433	$2,495
77	$2,086	$438	$2,524
78	$2,110	$443	$2,553
79	$2,134	$448	$2,582
80	$2,158	$453	$2,611
81	$2,182	$458	$2,640
82	$2,206	$463	$2,669
83	$2,230	$468	$2,698
84	$2,254	$473	$2,727
85	$2,278	$478	$2,756
86	$2,302	$483	$2,785
87	$2,326	$488	$2,814
88	$2,350	$494	$2,844
89	$2,374	$499	$2,873
90	$2,398	$504	$2,902
91	$2,422	$509	$2,931
92	$2,446	$514	$2,960
93	$2,470	$519	$2,989
94	$2,494	$524	$3,018
95	$2,518	$529	$3,047
96	$2,542	$534	$3,076
97	$2,566	$539	$3,105
98	$2,590	$544	$3,134
99	$2,614	$549	$3,163
>100	$2,618	$550	$3,168

FACT SHEET
FOR
WATER QUALITY ORDER 99-08-DWQ

STATE WATER RESOURCES CONTROL BOARD (SWRCB)
901 P STREET, SACRAMENTO, CALIFORNIA 95814

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITY (GENERAL PERMIT)

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five (5) or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 expand the existing NPDES program to address storm water discharges from construction sites that disturb land equal to or greater than one (1) acre and less than five (5) acres (small construction activity). The regulations require that small construction activity, other than those regulated under an individual or Regional Water Quality Control Board General Permit, must be permitted no later than March 10, 2003.

While federal regulations allow two permitting options for storm water discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide General Permit at this time that will apply to all storm water discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (Caltrans). Construction on Tribal Lands is regulated by an USEPA permit, the Lahontan Regional Water Control Board adopted a separate NPDES permit for the Lake Tahoe Hydrologic Unit, and the SWRCB adopted a separate NPDES permit for Caltrans projects. This General Permit requires all dischargers where construction activity disturbs one acre or more, to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters.

2. Eliminate or reduce nonstorm water discharges to storm sewer systems and other waters of the nation.

3. Perform inspections of all BMPs.

This General Permit shall be implemented and enforced by the nine California Regional Water Quality Control Boards (RWQCBs).

The General Permit accompanying this fact sheet regulates storm water runoff from construction sites. Regulating many storm water discharges under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting individual storm water discharges. Dischargers shall submit a Notice of Intent (NOI) to obtain coverage under this General Permit. It is expected that as the storm water program develops, the RWQCBs may issue General Permits or individual permits containing more specific permit provisions. When this occurs, those dischargers will no longer be regulated by this General Permit.

On August 19, 1999, the State Water Resources Control Board (SWRCB) reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ referred to as "General Permit"). The San Francisco BayKeeper, Santa Monica BayKeeper, San Diego BayKeeper, and Orange Coast Keeper filed a petition for writ of mandate challenging the General Permit in the Superior Court, County of Sacramento. The Court issued a judgment and writ of mandate on September 15, 2000. The Court directed the SWRCB to modify the provisions of the General Permit to require permittees to implement specific sampling and analytical procedures to determine whether Best Management Practices (BMPs) implemented on a construction site are: (1) preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment or silt, and (2) preventing other pollutants, that are known or should be known by permittees to occur on construction sites and that are not visually detectable in storm water discharges, from causing or contributing to exceedances of water quality objectives. The monitoring provisions in the General Permit have been modified pursuant to the court order.

TYPES OF CONSTRUCTION ACTIVITY COVERED BY THIS GENERAL PERMIT

Construction activity subject to this General Permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Construction activity that results in soil disturbances of less than one acre is subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses one or more acres of soil disturbance or if there is significant water quality impairment resulting from the activity. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety. Dischargers should confirm with the local RWQCB whether or not a particular routine maintenance activity is subject to this General Permit.

A construction project which includes a dredge and/or fill discharge to any jurisdictional surface water (e.g., wetland, channel, pond, or marine water) will also need a CWA Section 404 permit

from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the RWQCB/SWRCB. Storm water discharges from dredge spoil placement which occurs outside of Corps jurisdiction (upland sites) and are part of construction activity which disturbs one or more acres of land are covered by this general permit. Proponents of construction projects which disturb one or more acres of land within the jurisdictional boundaries of a CWA Section 404 permit should contact the local RWQCB to determine the applicability of this permit to the project.

NOTIFICATION REQUIREMENTS

It is the responsibility of the landowner to obtain coverage under this General Permit prior to commencement of construction activities. To obtain coverage, the landowner must file an NOI with a vicinity map and the appropriate fee with the SWRCB. In addition, coverage under this permit shall not occur until the applicant develops an adequate SWPPP for the project. Section A of the General Permit outlines the required contents of a SWPPP. For proposed construction activity on easements or on nearby property by agreement or permission, the entity responsible for the construction activity shall file an NOI and filing fee and shall be responsible for development of the SWPPP, all of which must occur prior to commencement of construction activities.

A separate NOI shall be submitted to the SWRCB for each construction site. Owners of new construction shall file an NOI prior to the commencement of construction. Owners of an ongoing construction site that is covered under the previous General Construction Permit (WQ Order No.92-08-DWQ) (1) shall continue to implement their existing SWPPP and monitoring program and (2) shall implement any necessary revisions to their SWPPP in a timely manner but in no case later than 90-calender days from adoption of this General Permit in accordance with Section A of this General Permit.

The NOI requirements of the General Permit are intended to establish a mechanism which can be used to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the requirements for a SWPPP.

The NOI must be sent to the following address:

State Water Resources Control Board
Division of Water Quality
Storm Water Permit Unit
P.O. Box 1977
Sacramento, CA 95812-1977

The Annual fees are established through regulations adopted by the SWRCB. The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI .

When construction is complete or ownership has been transferred, dischargers shall file a Notice of Termination with the RWQCB certifying that all State and local requirements have been met in accordance with Special Provisions for Construction Activity, C.7, of the General Permit.

Dischargers who fail to obtain coverage under this General Permit for storm water discharges to surface waters will be in violation of the CWA and the California Water Code.

CONSTRUCTION ACTIVITY NOT COVERED BY THIS GENERAL PERMIT

This General Permit does not apply to storm water discharges from (1) those areas on Tribal Lands; (2) the Lake Tahoe Hydrologic Unit; (3) construction under one acre, unless part of a larger common plan of development or sale; (4) projects covered by an individual NPDES Permit for storm water discharges associated with construction activity; and (5) landfill construction that is subject to the general industrial permit.

Storm water discharges in the Lake Tahoe Hydrologic Unit are regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region (LRWQCB). USEPA regulates storm water discharges on Tribal Lands. Permit applications for storm water discharges that will be conducted in the Lake Tahoe Hydrologic Unit must be submitted directly to the LRWQCB.

DESCRIPTION OF GENERAL PERMIT CONDITIONS

The following is a brief description of the major provisions of the General Permit and the basis for the General Permit.

Prohibitions

This General Permit authorizes the discharge of storm water to surface waters from construction activities that result in the disturbance of one or more acres of land. It prohibits the discharge of materials other than storm water and authorized non-storm water discharges and all discharges which contain a hazardous substance in excess of reportable quantities established at 40 Code of Federal Regulations (CFR) 117.3 or 40 CFR 302.4 unless a separate NPDES Permit has been issued to regulate those discharges. In addition, this General Permit contains provisions that uphold discharge prohibitions contained in water quality control plans, as implemented through the nine RWQCBs.

Effluent Limitations

Permits for storm water discharges associated with construction activity shall meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants and any more stringent controls necessary to meet water quality standards.

It is not feasible at this time for the SWRCB to establish numeric effluent limitations. The reasons why it is not feasible to establish numeric effluent limitations are discussed in detail in SWRCB Order Nos. WQ 91-03 and WQ 91-04. Therefore, the effluent limitations contained in this General Permit are narrative and include the requirement to implement appropriate BMPs.

The BMPs shall primarily emphasize source controls such as erosion control and pollution prevention methods. The discharger shall also install structural controls, as necessary, such as sediment control which will constitute BAT and BCT and will achieve compliance with water quality standards. The narrative effluent limitations constitute compliance with the requirements of the CWA.

Elimination or reduction of nonstorm water discharges is a major goal of this General Permit. Nonstorm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Nonstorm water discharges may contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping and to prevent illicit connections during construction shall be addressed through structural as well as non-structural BMPs.

This General Permit prohibits the discharge of materials other than storm water and authorized nonstorm water discharges. It is recognized that certain nonstorm water discharges may be necessary for the completion of construction projects. Such discharges include, but are not limited to irrigation of vegetative erosion control measures, pipe flushing and testing, street cleaning, and dewatering. Such discharges are allowed by this General Permit provided they are not relied upon to clean up failed or inadequate construction or post-construction BMPs designed to keep materials onsite. These authorized nonstorm water discharges shall (1) be infeasible to eliminate, (2) comply with BMPs as described in the SWPPP, and (3) not cause or contribute to a violation of water quality standards. Additionally, these discharges may be required to be permitted by the local RWQCB (e.g., some RWQCBs have adopted General Permits for dewatering discharges). This General Permit is performance-based to the extent that it prohibits the discharge of storm water that causes or threatens to cause pollution, contamination, or nuisance; but it also allows the owner/developer to determine the most economical, effective, and possibly innovative BMPs.

The requirements of this General Permit are intended to be implemented on a year-round basis, not just during the part of the year when there is a high probability of a precipitation event which results in storm water runoff. The permit should be implemented at the appropriate level and in a proactive manner during all seasons while construction is ongoing.

Weather and storm predictions or weather information concerning the 10-year, 6-hour storm event and mean annual rainfall can be obtained by calling the Western Regional Climate Center at 775-674-7010 or via the internet at www.wrcc.dri.edu/precip.html and/or www.wrcc.dri.edu/pcpnfreq.html.

Receiving Water Limitations Language

The receiving water limitations language is fundamentally different from the language adopted in the SWRCB General Industrial Activities Storm Water Permit on April 17, 1997. Construction related activities which cause or contribute to an exceedance of water quality standards must be corrected immediately and cannot wait for the RWQCB to approve a plan of action to correct. The dynamic nature of construction activity allows the discharger the ability to more quickly identify and correct the source of the exceedances. Therefore, the owner is

required to take immediate corrective action and to provide a report to the appropriate RWQCB within
14-calendar days of the violation describing the corrective action.

Storm Water Pollution Prevention Plan (SWPPP)

This General Permit requires development and implementation of a SWPPP. This document emphasizes the use of appropriately selected, correctly installed and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs which can effectively address source control of pollutants during changing construction activities.

All dischargers shall prepare and implement a SWPPP prior to disturbing a site. The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. Nonstorm water BMPs must be implemented year round. The SWPPP shall remain on the site while the site is under construction, commencing with the initial mobilization and ending with the termination of coverage under the permit.

The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water as well as nonstorm water discharges. The SWPPP shall include BMPs which address source control and, if necessary, shall also include BMPs which address pollutant control.

Required elements of a SWPPP include: (1) site description addressing the elements and characteristics specific to the site, (2) descriptions of BMPs for erosion and sediment controls, (3) BMPs for construction waste handling and disposal, (4) implementation of approved local plans, (5) proposed post-construction controls, including description of local post-construction erosion and sediment control requirements, and (6) nonstorm water management.

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, individuals responsible for creating, revising, overseeing, and implementing the SWPPP should participate in applicable training programs and document such training in the SWPPP.

SWPPPs are reports that are available to the public under Section 308(b) of the CWA and will be made available by the RWQCB upon request.

Monitoring Program

Another major feature of the General Permit is the development and implementation of a monitoring program. All dischargers are required to conduct inspections of the construction site prior to anticipated storm events and after actual storm events. During extended storm events, inspections must be made during each 24-hour period. The goals of these inspections are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit; and (3) whether additional control practices or corrective maintenance activities are needed. Equipment, materials, and

workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

Each discharger shall certify annually that the construction activities are in compliance with the requirements of this General Permit. Dischargers who cannot certify annual compliance shall notify the appropriate RWQCB. A well-developed monitoring program will provide a good method for checking the effectiveness of the SWPPP.

Retention of Records

The discharger is required to retain records of all monitoring information, copies of all reports required by this General Permit, and records of all data used to complete the NOI for all construction activities to be covered by the General Permit for a period of at least three years from the date generated. This period may be extended by request of the SWRCB and/or RWQCB. With the exception of reporting noncompliance to the appropriate RWQCB, dischargers are not required to submit the records, except upon specific request by the RWQCB.

FACT SHEET
FOR
WATER QUALITY ORDER 99-08-DWQ

STATE WATER RESOURCES CONTROL BOARD (SWRCB)
1001 I STREET, SACRAMENTO, CALIFORNIA 95814

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITY (GENERAL PERMIT): Sampling and Analysis

Contents

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Appendices

1.0 Introduction

This document is an amendment to the Fact Sheet to the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction Activity (CGP). This Permit was modified in 2001 by Resolution No. 2001-046, "*Modification of Water Quality Order 99-08-DWQ State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction Activity (CGP)*". The modifications to the CGP require that a sampling and analysis strategy and sampling schedule for certain discharges from construction activity be developed and kept with the project's Storm Water Pollution Prevention Plan (SWPPP). The sampling and analysis requirements are found in Section B, paragraphs 7 and 8, of the CGP. Paragraph 7 concerns monitoring for sedimentation/siltation or turbidity and Paragraph 8 concerns monitoring for pollutants that are not visually detectable in storm water. Where required, a sampling and analysis strategy and sampling schedule must be developed regardless of the time of the year that construction occurs.

This document only addresses the modifications and is intended to facilitate the proper implementation of the sampling and analysis requirements. It provides information on when sampling and analysis is required, how to perform sampling and analysis, what conclusions may be drawn from the sampling and analysis results, and it explains the rationale for the required sampling.

SWRCB staff developed this document with consideration of comments from interested persons, including the California Stormwater Quality Association, the Building Industry Legal Defense Foundation, the California Building Industry Association, the San Francisco BayKeeper, the Santa Monica BayKeeper, the San Diego BayKeeper, and the Orange County CoastKeeper. It is based on the CGP, two orders issued by the Sacramento Superior Court in response to a challenge to the CGP, Clean Water Act provisions, regulations, guidance documents and permits issued by the federal Environmental Protection Agency, and other documents submitted by interested persons. A full record has been compiled and is available for inspection or copying upon request. A draft guidance document was circulated for public comment and a hearing was held prior to issuance of this final guidance document.

Although sampling and analysis will be required at many construction sites, it will not be required at all construction sites. It is the responsibility of dischargers to evaluate the construction project and, where required, to develop a site-specific sampling and analysis strategy in compliance with the CGP requirements. For further guidance please contact your local Regional Water Quality Control Board (RWQCB).

The sampling and analysis requirements supplement, but do not replace, the visual monitoring program required by Section B of the CGP. All construction projects must continue the visual monitoring program including inspections before predicted rain events, during extended rain events, and following rain events that produce runoff.

This document provides guidance on complying with the sampling and analysis requirements of the CGP. It does not in any way change these requirements or guarantee compliance with the CGP. The permit has many other requirements such as development of a SWPPP,

implementation of Best Management Practices (BMP) programs, and visual monitoring that are not addressed in this document.

1.1 Organization

Section 1: general information and background on the sampling and requirements.

Section 2: non-visible pollutant sampling and analysis.

Section 3: sediment, silt and turbidity sampling and analysis.

Section 4: sampling and analysis procedures.

Section 5: definitions.

Section 6: contact list and additional sources of information.

Section 7: general explanation of and rationale for the sampling and analysis requirements; citations to other documents that form the basis for the SWRCB's conclusions.

1.2 Background

The SWRCB adopted the CGP on August 19, 1999. The CGP is an NPDES permit that implements section 402(p)(2)(B) of the federal Clean Water Act. The San Francisco BayKeeper, Santa Monica BayKeeper, San Diego BayKeeper, and Orange County CoastKeeper filed a petition for writ of mandate challenging numerous aspects of the CGP in the Superior Court, County of Sacramento.

On September 15, 2000, the Court issued a judgment and writ of mandate that upheld most provisions of the CGP, but directed the SWRCB to modify the provisions of the CGP to require permittees to implement specific sampling and analytical procedures to determine whether BMPs implemented on a construction site are:

(1) preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired (Clean Water Act Section 303(d) List [303(d) List]) for sediment, silt, or turbidity; and

(2) preventing other pollutants that are known or should be known by permittees to occur on construction sites and that can not be visually observed or detected in storm water discharges, from causing or contributing to exceedances of water quality objectives.

The monitoring, sampling and analysis provisions in the CGP were modified pursuant to the court order and issued as Resolution No. 2001-046, adopted by the SWRCB on April 26, 2001.

On December 27, 2001, the Court issued an Order Enforcing Writ of Mandate. In that order, the Court acknowledged that the permit had been modified, but required further actions by the SWRCB. Issuance of this fact sheet amendment is intended to respond to the Court's further instructions. In general, the Court expressed concern that certain aspects of the modifications might be ambiguous and might result in misinterpretation by dischargers. This amendment is

intended to avoid such potential ambiguities and misinterpretations and to help explain the requirements and provide suggestions for compliance.

1.2.1 Water Quality Standards or Objectives

The Receiving Water Limitations in the CGP require the SWPPP be designed and implemented so that storm water discharges and authorized non-storm water discharges do not cause or contribute to an exceedance of any applicable water quality standard. (CGP, Receiving Water Limitation B.2.) The modifications to the monitoring program require sampling and analysis procedures to help determine whether BMPs installed and maintained in accordance with the SWPPP are preventing pollutants in discharges from the construction site from causing or contributing to exceedance of water quality standards. In making these determinations, it is necessary to understand what are the applicable water quality standards.

Water quality standards consist of the designation of beneficial uses of surface waters and the adoption of ambient criteria necessary to protect those uses. (40 CFR §131.3(i)) When adopted by the SWRCB or a RWQCB, the criteria are termed "water quality objectives." (Water Code §13241; the terms are used interchangeably here.) If storm water runoff from construction sites contains pollutants, there is a risk that those pollutants could enter surface waters and cause or contribute to exceedance of water quality standards. For that reason, dischargers should be aware of the applicable water quality standards in their receiving waters. (The best method to ensure compliance with receiving water limitations is to implement BMPs that prevent pollutants from contact with storm water or from leaving the construction site in runoff).

In California, water quality standards are published in the Basin Plans adopted by each RWQCB, the California Toxics Rule (CTR), the National Toxics Rule (NTR), and the Ocean Plan. One way to determine the applicable standards for the receiving water for your runoff is to contact staff from the appropriate RWQCB. (See the contact list in Section 6 of this guidance.)

The SWRCB intends in the future to augment its internet site to further facilitate access to water quality standards. In the interim, dischargers can determine the applicable water quality standards by contacting RWQCB staff or from one of the following sources. The actual plans that contain the water quality standards can be viewed at the site of the appropriate RWQCB for Basin Plans (http://www.waterboards.ca.gov/regions.html), the SWRCB site for statewide plans (http://www.waterboards.ca.gov/plnspols/index.html), or the US Environmental Protection Agency (USEPA) regulations for the NTR and CTR (40 CFR Title 131). Basin Plans and statewide plans are also available by mail from the appropriate RWQCB or the SWRCB. The USEPA regulations are available at http://www.epa.gov/. Additional information concerning Water Quality Standards can be accessed through http://www.waterboards.ca.gov/stormwtr/gen_const.html

1.2.2 Non-Visible Pollutant Sampling

The monitoring requirements in the CGP require sampling and analysis for pollutants that are not visually detectable in storm water discharges, which are or should be known to occur on the construction site, and which could cause or contribute to an exceedance of water quality objectives. As is explained below, the situations where non-visible pollutants may occur in runoff from a construction site are limited. Where such non-visible pollutants are known or

should be known to be present and have the potential to contact runoff and to contribute to an exceedence of a water quality objective, sampling and analysis is required.

A variety of materials are used in construction or are present on construction sites. Examples of such materials include soil stabilizers, paint, and fluids from vehicles. Any of these materials can end up in the storm water runoff and contain pollutants that pose a threat to water quality. Some of these potential pollutants will leave a visible trace. For example, sediment turns water brown and oil and grease leave a sheen. Other pollutants will discolor the runoff or leave a residue or film. For pollutants that are visible in runoff, the CGP requires the discharger to perform visual monitoring of the site and does not require sampling and analysis. The sampling and analysis requirements only apply to pollutants that do not leave a visible trace or are not associated with a visible tracer. Examples of such potential non-visible pollutants include increased pH, pesticides, and nutrients such as nitrogen or phosphorus.

The presence or use of a material on the construction site does not always mean that dischargers must sample for it in runoff. The CGP requires sampling and analysis when non-visible pollutants could "cause or contribute to an exceedance of water quality objectives in the receiving water." The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff. Materials that are not exposed do not have the potential to enter storm water runoff, and therefore do not need to be sampled for in runoff. Preventing contact between storm water and construction materials is one of the most important BMPs at any construction site. Manage any potential pollutants on the site in such a way that the exposure of the pollutant to rainfall or storm water is minimized or eliminated.

Elimination of exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions at a time when they are unlikely to be washed away. Other materials can be exposed when storage, waste disposal or application are not done in a manner protective of water quality or through accidental spillage. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed to pollutants. In cases where construction materials may be exposed to storm water but the storm water is contained, and is not allowed to run off the site, then sampling only needs to occur when inspections show the containment failed or is breached and there is potential for exposure or discharge.

Many common good housekeeping BMPs already limit exposure to most materials. Improving these practices to prevent exposure is a better approach to preventing pollution of runoff and will limit the amount of sampling and analysis. Improved BMPs may be less costly than an ongoing sampling and analysis program.

The first step in managing potential pollutants at a construction site is the implementation of well thought out BMP programs that are designed to minimize the mobilization of pollutants such as sediment and to minimize the exposure of storm water to pollutants. The next important step is an aggressive program of inspections both on a regular basis and before and after storms. The inspection program must also be accompanied by an equally aggressive BMP maintenance

program. The receiving water is protected when appropriate BMPs are implemented, inspected and maintained. The role of sampling is to support the visual inspection of the site when necessary.

1.2.3 Sediment-Impaired Water Bodies

Certain lakes, streams, rivers, creeks and other bodies of water in California have been determined by the SWRCB to be impaired by one or more pollutants. (This listing is required by Clean Water Act section 303(d).) One of the pollutants that can trigger a listing is sediment, termed variously as sedimentation, siltation, sediment, or turbidity. The water bodies listed for sediment in California are included in Attachment 3 to the CGP. Additional discharges of sediment to a sediment-impaired water body-could contribute to the exceedance of a water quality standard for that pollutant. Following listing of impaired waters, RWQCBs adopt total maximum daily loads (TMDLs) that may include waste load allocations for the impairing pollutant. Effluent limitations in NPDES permits must be consistent with the assumptions and requirements of waste load allocations (40 CFR section 122.44(d)(1)(vii)(B)), and adoption of TMDLs could result in specific requirements in the CGP or an individual or watershed-wide construction permit. Pending completion of TMDLs for sediment-impaired waters, it is necessary to ensure that sediment discharges from construction sites do not cause or contribute to exceedances of water quality. To that end, the modifications require sampling and analysis of discharges from construction activity that directly enters a water body listed in Attachment 3 to the CGP as impaired for sediment. This requirement is generally only applicable to a handful of construction projects each year.

To obtain the latest list of 303(d) water bodies, visit the SWRCB's Web site at http://www.waterboards.ca.gov/.

1.3 Purpose of Sampling and Analysis

The primary method of determining compliance with the CGP is visual inspections. The permit requires regular inspections as well as pre-storm and post-storm inspections to determine if there are areas where storm water can be or has been exposed to pollutants. It is possible to see if there is erosion and movement of soil, or if construction materials, chemicals and waste are exposed. This is the best way to determine if the site is in compliance. In some cases, verification of this compliance through sampling and analysis is appropriate. The purpose of the sampling and analysis requirements is to support the visual observation program and to provide information that can be used to help determine whether the BMPs employed on a construction site are effective in preventing construction site pollutants from causing or contributing to exceedances of water quality objectives in the receiving waters. The modifications to the CGP contain two categories of sampling and analysis requirements, which are illustrated in Figures 1-1 and 1.2.1-4:

Monitoring for non-visible pollutants at any site where the relevant triggering conditions occur. This monitoring is required at any site where there is exposure and where a discharge can cause or contribute to exceedence of a water quality objective, not just those that discharge to water bodies that are listed for a particular pollutant; and

Monitoring for sediment in storm water discharged directly to water bodies listed as impaired for sediment/siltation, sediment, or turbidity on the SWRCB's 303(d) list of water bodies.

The sampling and analysis results are not conclusive proof of compliance or non compliance with the permit. Specifically, Receiving Water Limitations in the CGP provide that the SWPPP must be designed and implemented so that storm water discharges shall not cause or contribute to exceedance of any applicable water quality standards. These provisions also require implementation of corrective measures, and revision of the SWPPP and monitoring requirements if storm water discharges do cause or contribute to an exceedance of an applicable water quality standard. USEPA has pointed out the difficulties and limitations of using sampling in storm water permits as a measure of compliance. (57 Fed. Reg. 11394, 11402) While sampling and analysis, as required by the CGP, may be a useful tool in pointing to areas of concern, it is of limited use in the storm water context and must be used as a diagnostic tool rather than as conclusive evidence of compliance or non-compliance with the CGP.

Determine if You Must Perform Sampling and Analysis for Sediment, Silt, or Turbidity

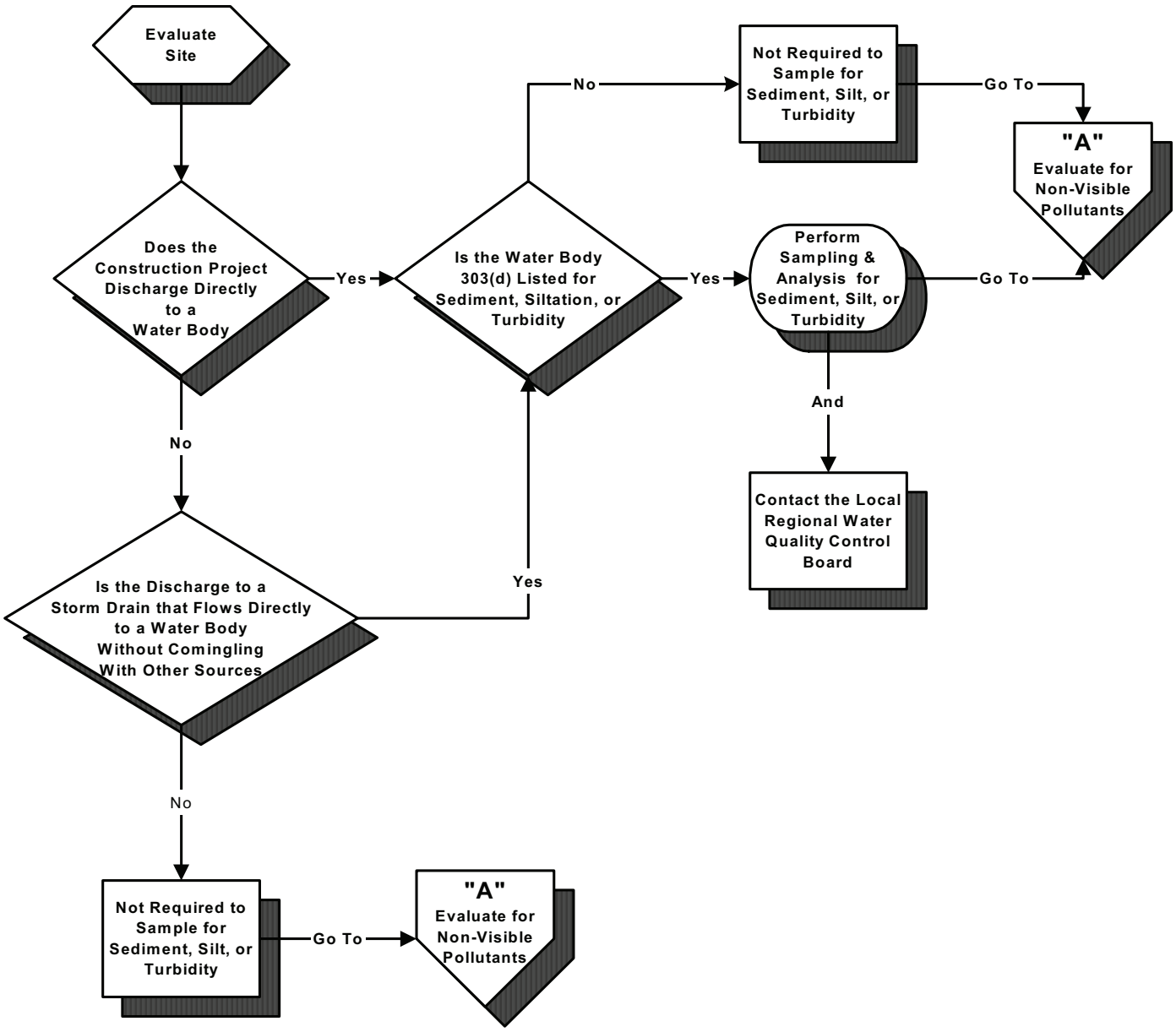


Figure 1.1

Evaluate Site for Non-Visible Pollutants
and Determine if You Must Perform
Sampling & Analysis for Non-Visible Pollutants

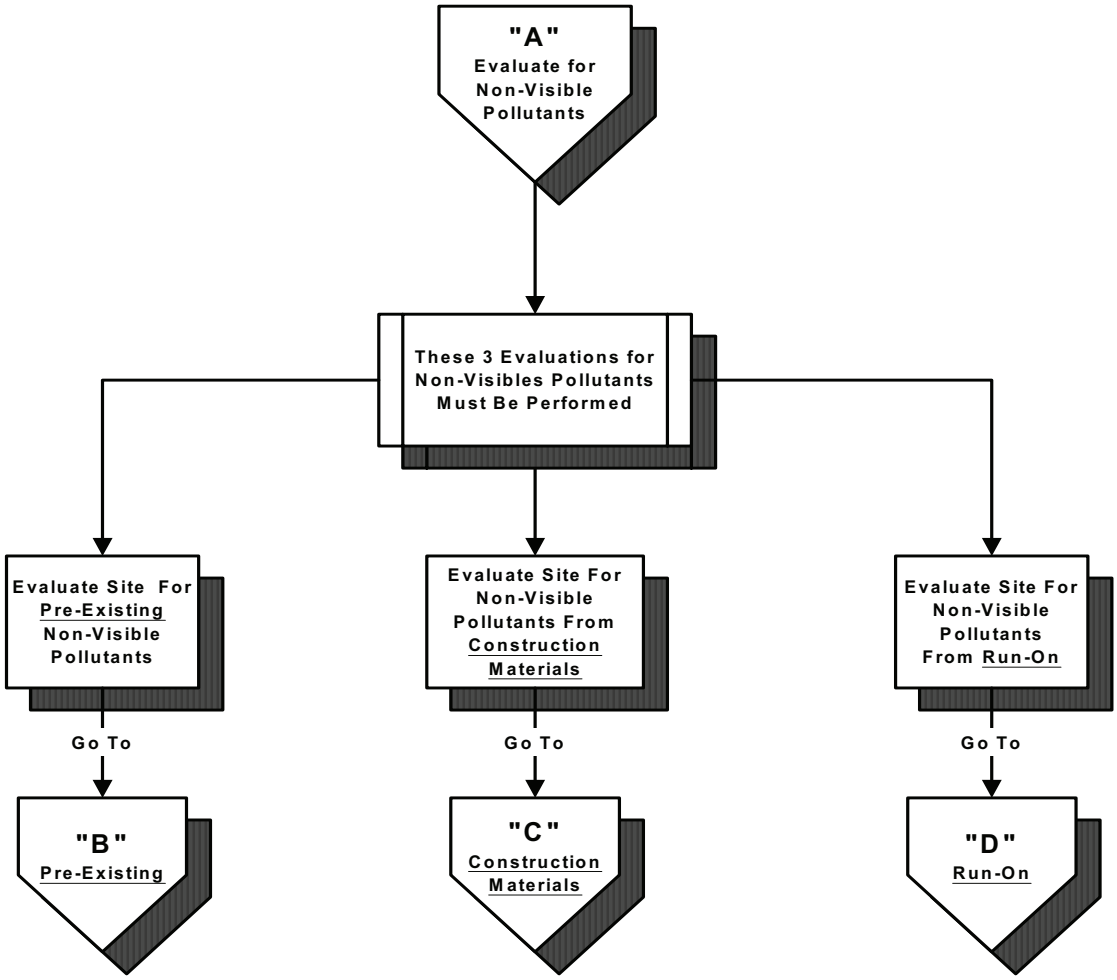


Figure 1.2

Determine If You Must Perform Sampling and Analysis (S&A) for Pre-Existing Non-Visible Pollutants

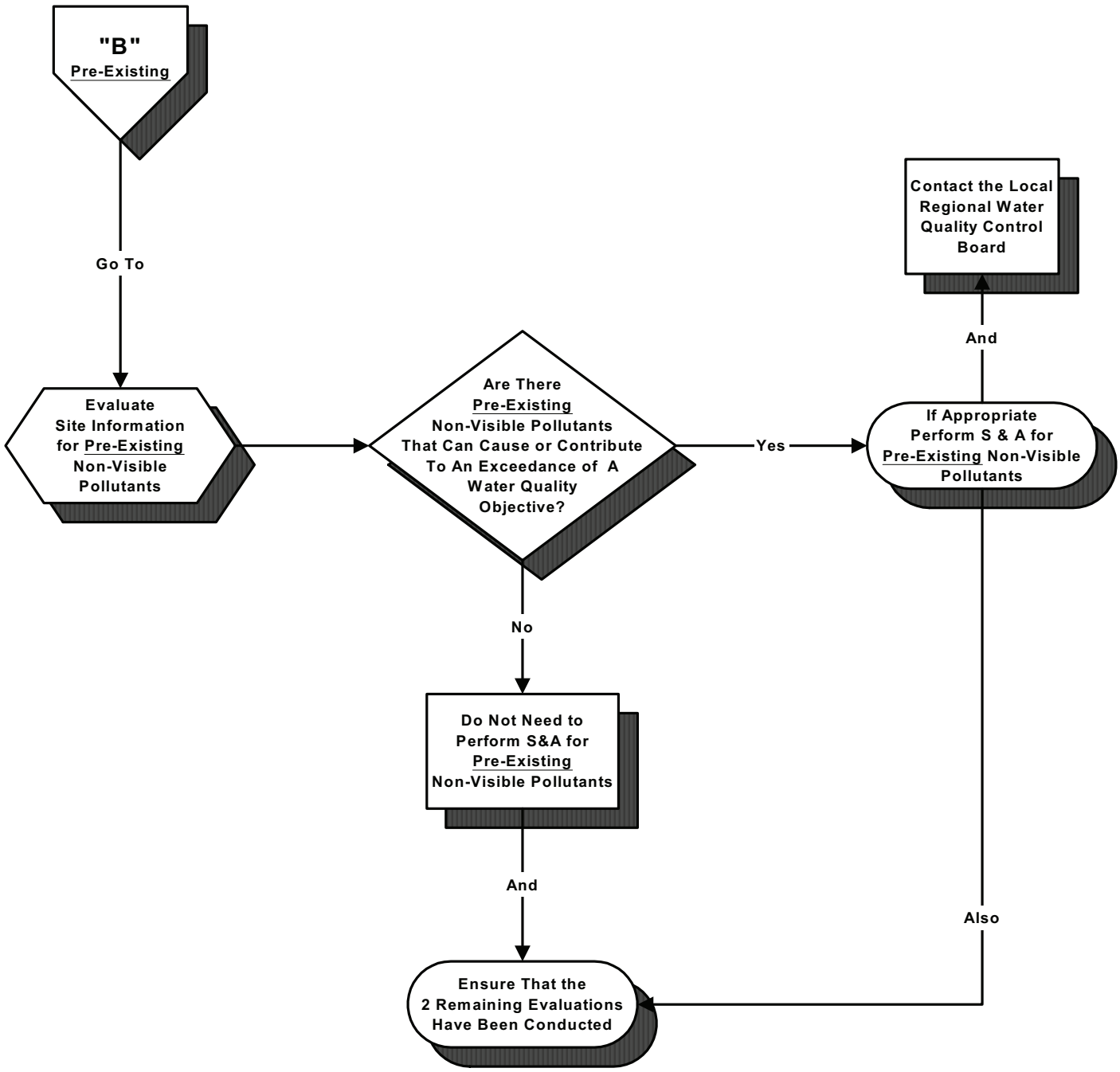


Figure 1.2.1

Determine If You Must Perform Sampling and Analysis (S&A)
for Non-Visible Pollutants
From Construction Material

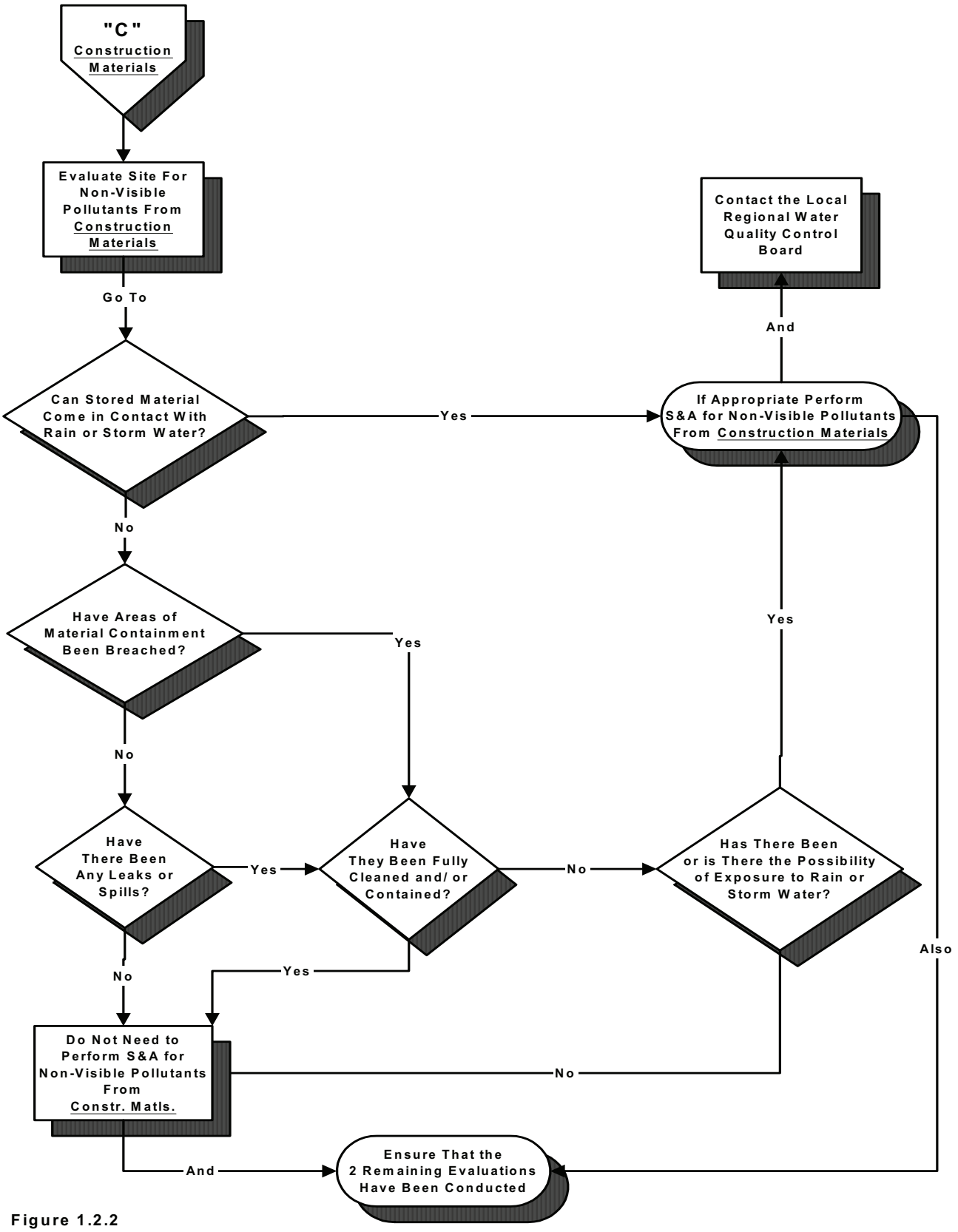


Figure 1.2.2

Determine If You Must Perform Sampling and Analysis (S&A) for Non-Visible Pollutants From Run-On

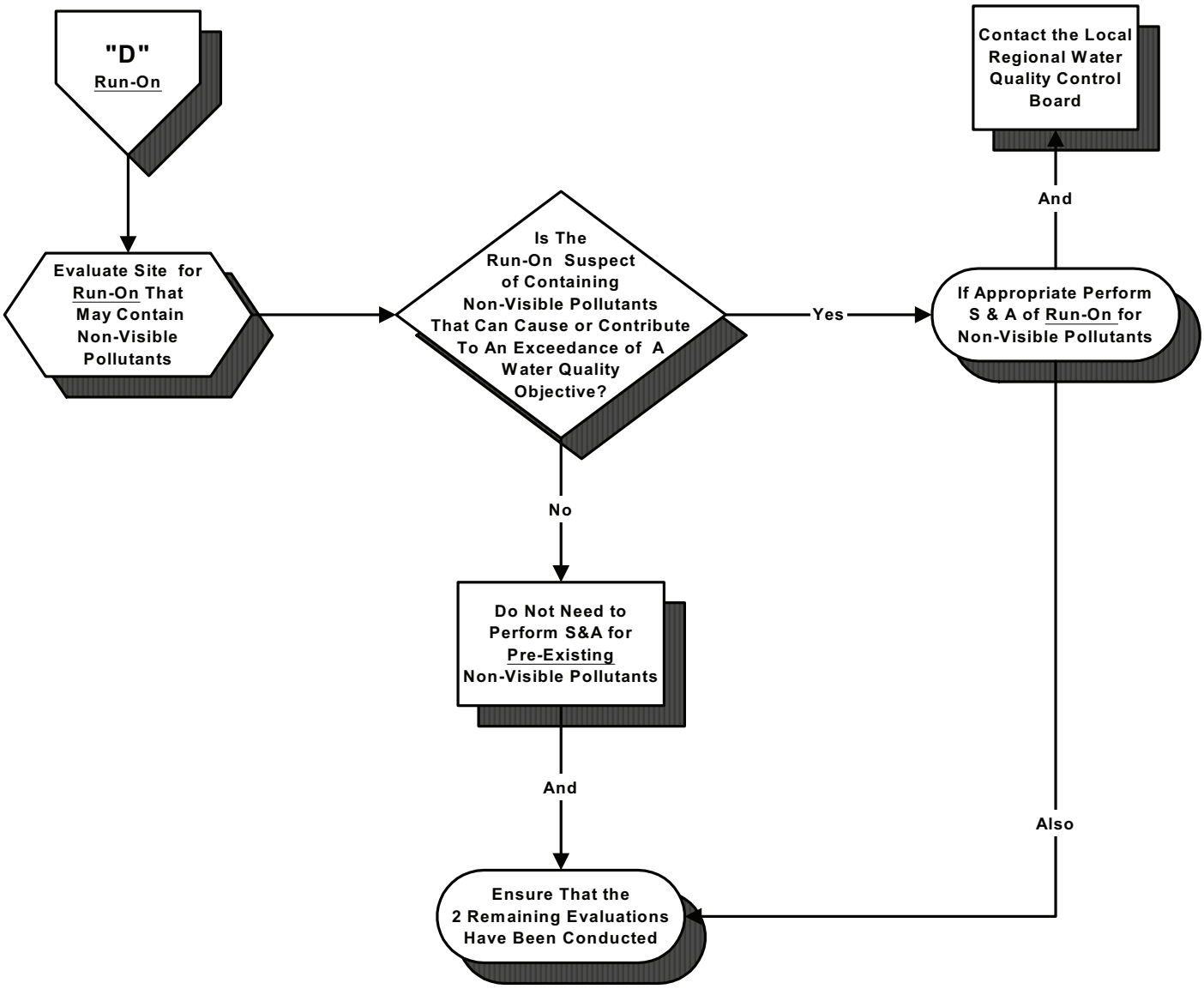


Figure 1.2.3

2.0 Sampling Program for Pollutants Not Visually Detectable in Storm Water

The CGP requires sampling and analysis for pollutants not visually detectable in runoff, but which could cause or contribute to an exceedance of water quality objectives in the receiving water. Sample for a constituent if there is reason to expect that it may be in the discharge, regardless of whether or not it is causing or contributing to an exceedence of a water quality objective. First attempt to eliminate the exposure of construction materials to prevent pollution of storm water and thus to limit the requirement for sampling and analysis. Many construction materials, including soil amendments, fertilizers, pesticides, and even things like fencing and wood products, are intended for use outdoors. For such materials, minimize pollutant discharge through implementation of appropriate BMPs. If exposure to these products can contribute pollutants to the runoff at levels that could cause or contribute to exceedance of a water quality objective, then sampling is still required, even if they are used correctly.

2.1 What the Permit Says about Sampling

The CGP requires that a sampling and analysis program be developed and conducted for pollutants which:

- Are not visually detectable in storm water discharges,
- Are known or should be known to occur on the construction site, and
- Could cause or contribute to an exceedance of water quality objectives in the receiving water.

Include all pollutants identified in this way in this sampling and analysis strategy and identify them in the SWPPP (as required by Sections A. 5. b. and A. 5. c. of the CGP). The CGP states that the SWPPP must identify a strategy for conducting the sampling and analysis, including the frequency and location(s) at which sampling will be conducted.

Sample for pollutants that would not be visible in runoff if:

- Visual inspections (required before, during and after storm events) indicate that there has been a breach, malfunction, leakage or spill from a BMP that could result in the discharge of pollutants in storm water and the pollutants would not be visually detectable; or
- Storm water comes into contact with soil amendments, other exposed materials, or other on site sources of pollution.

2.2 Deciding When to Sample

Conduct proper inspections throughout the duration of the project to make sure that appropriately selected BMPs have been implemented, are being maintained, and are effective. Sample if non-visible pollutants that are known or should be known to occur on the construction site "could cause or contribute to an exceedance of water quality objectives in the receiving water." As discussed in this document, there are numerous receiving water standards found in different documents, including narrative water quality objectives in basin plans. For that reason,

and because of the difficulties associated with linking a discharge from a construction site to exceedance of water quality standards in the receiving waters, conduct sampling and analysis whenever the above conditions are met.

If a determination is made that sampling is needed, collect storm water runoff samples regardless of the time of year, status of the construction site, or day of the week. Collect samples during the first two hours of runoff (during daylight hours). Storm water inspections and sample collections are required even during non-working days (including weekends and holidays).

2.3 Deciding What Constituents to Sample for: What are Pollutants Which are "Known or Should be Known " to Occur on a Construction Site?

Pollutants can be considered to be known or should be known to occur on the construction site if they are currently in use or are present as a result of previous land uses. This includes materials that:

- are being used in the construction activities
- are stored on the construction site
- were spilled during construction operations and not cleaned up
- were stored (or used) in a manner that presented the potential for a release of the materials during past land use activities
- were spilled during previous land use activities and not cleaned up
- were applied to the soil as part of past land use activities.

Construction material inventories and the project SWPPP should provide adequate information on materials currently in use or proposed for use on the construction site.

Develop a list of potential pollutants based on a review of potential sources identified in your SWPPP (required by CGP sections A.5.b. and A.5.c.), which will include construction related materials, soil amendments, soil treatments, and historic contamination. Review existing environmental and real estate documentation to determine the potential for pollutants to be present on the construction site as a result of past land use activities. Good sources of information on previously existing pollution and past land uses include Environmental Assessments, Initial Studies, Environmental Impact Reports or Environmental Impact Statements prepared under the requirements of the National Environmental Policy Act or the California Environmental Quality Act, and Phase 1 Assessments prepared for property transfers. In some instances, the results of soil chemical analyses may be available and can provide additional information on potential contamination.

Identify from this list those pollutants that would not be visible in storm water discharges. These are the constituents that you will likely have to sample for in runoff if the materials are

exposed to storm water. Consult with your analytical laboratory or water quality chemist to determine if there are field tests or indicator parameters that can be used.

2.4 Deciding Where to Sample

Sample at all discharge locations that drain the areas from which the pollutants may have entered the runoff and at locations that have not come in contact with the pollutants (reference sampling). This allows a comparison of reference samples with the sample(s) collected from storm water suspected of containing construction-related pollutants. The collection of this sample is important in the interpretation of the potentially contaminated sample because it provides information on the characteristics of the storm water without the exposure. For example, if storm water were to come in contact with hydrated lime products, the indicator parameter for pollution would be an elevated pH. The storm water could also be polluted with other materials or minerals, but the elevated pH will provide information necessary for the discharger to make further determinations as to the cause. In this case, a sample of storm water from the same storm event that did *not* come in contact with the hydrated lime would provide an understanding of what the pH of the uncontaminated storm water was in relation to the polluted storm water.

A more accurate background sample would have also contacted the soil and vegetation of the area, further isolating the lime as the source of the elevated pH. This gives the discharger the necessary information to take immediate steps to detain the polluted storm water or to

minimize or eliminate the exposure. Describe the sampling procedure, location and rationale for obtaining the reference sample of storm water in the SWPPP.

Identify sampling locations that provide information on both the runoff quality that is affected by material storage, historic contamination or other exposed potential pollutants, and the background runoff quality (i.e., reference sample). Material storage may be confined to a small area of the project while historic contamination or exposed materials, such as soil amendments, may be widespread throughout the construction site. For this reason, the sampling locations identified for these two types of potential pollutants may be different.

- Collect samples at locations identified in your SWPPP and in areas identified by visual observations/inspections where there has been a BMP failure or breach and which can be safely accessed.

- Collect samples from a location that is not affected by material storage activities or by runoff as a background or reference location.

- For a widespread potential pollutant, select sampling locations at the perimeter of your site, where storm water is unaffected by your activities and compare this to areas that are affected by your activities on the site. Describe the sampling procedure, the location, and the rationale for selecting these locations in the SWPPP.

If the "reference sample" is taken from on-site and it turns out to be carrying a high level of pollutants this should trigger an evaluation of this drainage area. Are there previously

undetected sources of pollutants? It may turn out that additional BMPs may be necessary on this portion of the site or that the discharge must be managed or contained.

If the "reference sample" is taken from off site and it turns out to be carrying a high level of pollutants take a sample on site to determine if the same pollutants are on site and must be managed.

2.5 Types of Test Methods?

The CGP requires sampling of non-visible pollutants that "could cause or contribute to an exceedance of water quality objectives in the receiving waters". Unlike sediment, for which there are a limited number of applicable water quality objectives, the applicable water quality standards for "non-visible" pollutants will depend on the material and its chemical makeup. This guidance document contains information on what pollutants may occur on construction sites and which water quality standards may be associated with those pollutants. The best assurance of complying with the receiving water limitations is to prevent or reduce runoff of all polluting substances from construction sites through implementation of effective BMPs.

The sampling and analysis language recognizes that sampling and laboratory analysis, in and of itself, does not protect water quality. Rather, field identification and detection of the source of pollution, followed by timely action is ultimately what will protect the receiving waters. Because of the short-term nature of construction, and the use of different materials during the construction period, laboratory sampling will not generally provide the information needed in an adequate time frame. It is preferable to use field-sampling techniques that can provide immediate information and allow a timely solution.

For this reason, the sampling and analysis language for non-visible pollutants contemplates field sampling using indicator parameters. The correct indicator parameter can provide a quick and immediate indication of contamination of storm water to known materials stored or used on a construction site. Field test kits and devices have been commercially available for decades and widely used for water quality applications. As an example, test strips to evaluate for ammonia, phosphate, chlorine, copper, iron, nitrate, nitrite, and low and high range pH are readily commercially available. Manufacturers and distributors provide technical support as well as training to their customers.

2.6 Deciding How Often to Sample

Determine the frequency of sampling for non-visible pollutants based on the exposure of pollutant sources. Sample runoff when BMPs do not effectively prevent or reduce exposure of a non-visible pollutant source to storm water. Sample runoff when inspections identify a BMP failure, which exposed pollutants to storm water. If spills are thoroughly cleaned up and the contaminated material is isolated, eliminating exposure to storm water runoff, sampling is not required. For instances when the potential for previously existing pollution is identified, perform laboratory screening analysis during the first one or two storm events of the season to determine if the potential pollutant is running off the construction site. If construction activity will disturb or mobilize such potential pollutant sources, take samples to determine if the pollutants are being mobilized by the construction activity.

2.7 Identification of Pollutant Sources

Information about various construction pollutant sources can be viewed by following the instructions posted on the swrcb.ca.gov web site. In addition, various discharger groups have also produced information that may be useful for determining pollutants sources and sampling parameters for runoff from construction activity. These include a "Pollutant Testing Guidance Table" that lists construction materials, describes whether they would be visible in runoff, and lists pollutant indicators, which will be available on the swrcb.ca.gov/stormwtr/gen_const.html web site

2.8 Examples of When Sampling and Analysis for Non-Visible Pollutants Is Not Required

Sampling and analysis is not required under the following conditions. However, a contingency sampling strategy should be prepared in the event of an accidental discharge.

- Where construction takes place entirely during a period of time when there are no rainfall events. Timing construction to occur outside of the rainy season is the most effective BMP.
- Where a construction project is "self-contained", meaning that the project generates no runoff or any potential discharges containing pollutants, including no potential for tracking sediment off-site from vehicle tires, and no potential for discharging products of wind erosion.
- Where construction materials and compounds are kept or used so that they are not in contact with storm water (e.g., in water-tight containers, under a water-tight roof, inside a building, etc.).
- Where for specific pollutants, the BMPs implemented at the construction site fully contain the exposed pollutants (e.g., bermed concrete washout area).
- For building, landscaping and BMP materials that are in their final constructed or in-place form or are designed for exposure (e.g., fence materials, support structures and equipment that will remain exposed at the completion of the project, etc.).
- Where pollutants may have been spilled or released on site, but have been properly cleaned-up and storm water exposure has been eliminated prior to a storm event.
- For stockpiles of construction materials for which both cover and/or containment BMPs have been properly implemented to protect them from run-on and from contributing pollutants to storm water .

2.9 Examples of When Sampling and Analysis Is Required

Sampling and analysis is required when non-visible pollutants have the potential to contact storm water and run off the construction site into a storm drainage system or water body at levels that may cause or contribute to exceedance of water quality standards. Some examples of this situation are:

- Where construction materials and compounds are stored or applied such that they may come in contact with storm water runoff.

- For construction projects that utilize soil amendments or soil treatments that can come in contact with storm water runoff. (If you have independent test data available that demonstrates that the soil amendments cannot result in concentration levels in storm water discharges that will cause or contribute to exceedance of applicable water quality standards, sampling and analysis may not be required. Contact the appropriate RWQCB to determine acceptable concentration(s) of the material(s) in question.)

- When a leak or spill occurs that is not fully contained and cleaned prior to a storm event.

- When a leak or spill occurs, during a storm event, and it cannot immediately be isolated and/or cleaned-up, and the possibility of an off-site discharge exists.

- When, during regular inspections, it is discovered that cover and containment BMPs have been compromised and storm water comes in contact with materials resulting in runoff discharging into a storm drain system or water body.

- When material storage BMPs have been compromised, breached, or have failed.

2.10 Do I Sample Storm Water Flows Diverted Around My Project for Non-Visible Pollutants?

Dischargers may be faced with a situation where the disturbed area of their construction site is adjacent to a large area that historically has drained across their site. This happens most frequently in foothill situations where schools or commercial development is undertaken alongside an existing roadway, adjacent to a large undisturbed area. In such a situation, calculate the anticipated volume of the flow in order to size a diversion structure to divert the (usually) clean storm water around or though the site. (CGP section A.5.b.1.) It is unwise to allow a large volume of water to wash across a disturbed area. Not only would the run-on cause erosion and remove the soil from the project, but also the discharge would be turbid and violate the Permit requirements. To the extent that the discharger does allow run-on of polluted water to flow across the site, and contaminants in the run-on are not visible, the sampling and analysis requirements apply. Additionally, the CGP (section A. 5. b.) requires that the RWQCB be contacted in the above situation.

The requirement to divert run-on does not authorize the creation of a new point source of pollutants, however. If the run-on contains pollutants from pre-existing pollution in the watershed, the discharger is responsible to determine this before planning the diversion. Should a discharger divert contaminated water around the site and allow it to enter surface waters, this permit does not authorize such discharge and the discharger should be aware that a separate NPDES permit may be required. (See, *Committee to Save Mokelumne River v. East Bay Municipal Utility District* (9th Cir. 1993) 13 F.3d 305, 309.) If you are planning on diverting flows from entering your site and you suspect that they contain pollutants, contact your local RWQCB for advice.

2.11 Deciding How to Sample

- Only personnel trained in water quality sampling procedures should collect storm water samples.
- Determine sampling methods and locations in advance of the runoff event in order to provide sufficient time to gather the supplies and equipment necessary to sample and plan for safe access by the sampling personnel.
- General guidance for sampling procedures is provided in Section 4 of this document.

2.12 How to Use Your Sampling Data

2.12.1 How to Analyze Your Data

Initiate corrective action where non-visible pollutant sample test results indicate presence of pollutants in the construction site storm water runoff. This can be determined by comparing your construction site's storm water test results with the background sample. BMPs must be used to control offsite discharge of any pollutant (e.g., pesticides) that is not naturally occurring, regardless of background levels of that pollutant.

Where your site's storm water test concentrations for naturally occurring substances are considerably above (or, in the case of pH, considerably above or below) the background concentrations, or where other pollutants are found, evaluate the BMPs to determine the cause. Initiate corrective action by repairing, replacing or suplementing the BMPs on your site. Conduct additional sampling during the next runoff event after corrective actions are implemented to demonstrate and document that the problems have been corrected.

This permit does not contain benchmarks. However, method of data analysis for naturally occurring substances employs a similar concept: determining whether the results are "considerably above" the background levels. The term "considerably above" is based upon guidance contained in USEPA's Multi-Sector General Permit, which does use benchmarks. These benchmarks are not numeric storm water effluent limits, are not related or necessarily protective of any specific receiving water, and exceedances of these benchmarks are not automatically considered permit violations. When sample results exceed one or more of the benchmarks, the USEPA recommends dischargers reevaluate the effectiveness of their BMPs and develop, when appropriate, additional BMPs. The use of such benchmark values is a scientifically valid indicator of the presence of pollutants associated with construction activity in the runoff. Since the non-visual pollutants that may occur on construction sites may be similar in type and cause to those on industrial sites, it is valid to use USEPA's approach here. Where a parameter in a sample is being evaluated, and a benchmark is available, the benchmark may be used for comparison purposes. (USEPA does not require any sampling and analysis in its construction permits, and therefore does not have benchmarks for construction activities.)

2.12.2 Coordinating Visual Observations with Sampling Results

If visual inspection of storm water BMPs used to contain or otherwise manage (i.e., filter or treat) non-visible pollutants at a construction site indicates that a BMP has failed or been compromised, then field monitoring of any impacted storm water from the site for non-visible pollutants is required. Of course, immediately repair or replace any BMP that has been visually inspected and found breached or compromised. If feasible, contain the polluted discharge and prevent it from being discharged off site. After taking steps to correct the failed BMP, conduct field monitoring in the vicinity of the BMP to verify that pollutants are no longer in the storm water.

The intent of conducting field monitoring for non-visible pollutants is to obtain an immediate indication if storm water that is discharging from a site has been polluted. An immediate indication of a polluted discharge requires an immediate response in the form of backtracking from the point of discharge to find the source and take appropriate measures to prevent a recurrence of a polluted discharge.

2.12.3 What To Do If The Data Show a Potential Problem

If your data shows a problem, follow the reporting requirements as shown in the CGP Receiving Water Limitations. In addition, take the following steps as soon as possible:

- Identify the source
- Repair or replace any BMP that has failed
- Maintain any BMP that is not functioning properly due to lack of maintenance
- Evaluate whether additional or alternative BMPs should be implemented

If sampling and analysis during subsequent storm events shows that there is still a problem, then repeat the steps above until the analytical results of "upstream" and "downstream" samples are relatively comparable.

Where your site's storm water results show test concentrations considerably above (or below) background concentrations, evaluate the BMPs to determine what is causing the difference. Possible solutions may include repairing the existing BMPs, evaluating alternative BMPs that could be implemented, and/or implementing additional BMPs (cover and/or containment) which further limit or eliminate contact between storm water and non-visible pollutant sources at your site. Where contact cannot be reduced or eliminated, retain storm water that has come in contact with the non-visible pollutant source on-site and do not allow it to discharge to the storm drainage system or to a water body. Contact your RWQCB to determine whether it is permissible to discharge the retained storm water. Conduct additional sampling during the next runoff event after corrective actions are implemented to demonstrate and document that the problems have been corrected.

2.13 Retention of Data

Keep results of field measurements and laboratory analyses with the SWPPP, which is required to be kept on the project site until the Notice of Termination (NOT) is filed and approved by the

appropriate RWQCB. Keep field training logs, Chain-Of-Custody (COC) forms and other documentation relating to sampling and analysis with the project's SWPPP. Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated or after project completion.

3.0 Sampling Program for Sedimentation/Siltation

3.1 What the Permit Says About Sampling

Soils, sediments, and fine (suspended) particles that result from grading and earthwork activities and soil erosion from disturbed, un-stabilized land areas are potentially significant sources of storm water pollution at construction sites. The CGP requires construction sites to develop, implement and maintain an effective combination of erosion control and sediment control BMPs to prevent soils, sediments, debris and solids fine enough to remain suspended from leaving the construction site and moving into receiving waters at levels above preconstruction levels.

The CGP requires that a visual survey of the site be done before, during and after a storm. If the visual survey indicates either the potential for a discharge of sediment laden water or that sediment is being discharged, steps must be taken to repair or augment the BMPs to prevent the discharge as soon as possible. Discharge of sediment above predevelopment levels is not allowed.

The CGP requires sampling and analysis for sediment/silt or turbidity when the construction site runoff discharges directly into a water body that is impaired by sedimentation/siltation, sediment, or turbidity (that is, the water body is on the 303(d) list for one or more of these pollutants.) A key point is that the discharge of storm water runoff must directly enter the impaired water body or impaired segment of a water body. Construction site runoff that flows through a tributary or storm drainage system and is commingled with other sources of flow, is not considered a direct discharge even if the flow eventually enters an impaired water body. (See the definition of direct discharge in Section 5 for further details.)

The CGP requires that the SWPPP identify a strategy for conducting the sampling and analysis, including the frequency at which sampling will be conducted. The SWPPP must also describe:

- the location(s) of direct discharges from construction activities to a water body listed on the SWRCB's 303(d) list for sedimentation/siltation, sediment and/or turbidity;
- the designated sampling location(s) in the listed water body representing the prevailing conditions up-stream of the discharge; and
- the designated sampling location(s) in the listed water body representing the prevailing conditions down-stream of the discharge.
- the sampling design which describes the sampling devices used; the sample size; the number of samples to be taken at each location, the laboratory protocol employed; and, if applicable, the statistical test used to determine if the upstream/downstream samples differ to a statistically significant degree.

3.2 Deciding When to Sample

- Dischargers must perform sampling if the storm water runoff directly discharges from the construction site to a 303(d) listed water body.
- Dischargers must collect samples during the first two hours of discharge (runoff) from storm events which result in a direct discharge to any 303(d) listed water body. But samples need only be collected during daylight hours (sunrise to sunset).
- Dischargers must collect samples regardless of the time of year, status of the construction site, or day of the week. Samples should be taken during the first two hours of a storm event. Storm water inspections and sample collections are required even during non-working days (including weekends and holidays). Samples must be taken from the same storm event for comparison, concentrations are not comparable across storm events.
- Dischargers do not need to perform upstream/downstream sample collection for more than four (4) rain events per month.

3.3. Deciding What Constituent(s) Require Sampling

- If the water body is listed as impaired for sedimentation or siltation, analyze samples for Setteable Solids (mL/L) and Total Suspended Solids (mg/L) according to USEPA 160.2 and USEPA 160.5, respectively. Samples may be analyzed for suspended sediment concentration (SSC) according to ASTM D3977-97 instead of or in addition to Total Suspended Solids and Setteable Solids.
- If the water body is listed as impaired for turbidity, analyze samples for turbidity per USEPA 180.1 or analyze in the field using a correctly calibrated turbidity meter.
- It is very important that consistent sampling and analysis methods are used for all sampling locations.

Table 3-1 shows general sample handling and laboratory requirements for sediment sampling.

Table 3-1
LABORATORY REQUIREMENTS[1] FOR STORM WATER MONITORING OF SEDIMENT, SILTATION AND/OR TURBIDITY

Parameters	Analytical Method	Target **Method Detection** Limit	Minimum Sample Volume [2]	Container	Preservative	Holding Time
Total Suspended Solids (TSS) [2]	EPA 160.2	1 mg/L	100 mL	500 mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	7 days
Setteable Solids (SS)	EPA 160.5	0.1 mL/L/hour	1 liter	1 liter mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	48 hours
Suspended Sediment Concentration (SSC) [3]	ASTM D 3977-97	Contact Laboratory	200 mL	Contact Laboratory	Store in ice or refrigerator at 4°C (39.2°F)	7 days
Turbidity	EPA 180.1	1 NTU	100 mL	500 mL polypropylene or glass	Store in ice or refrigerator at 4°C (39.2°F), Dark	48 hours

1 The data in this table is a summary of recommended laboratory requirements. For specific USEPA regulatory requirements, consult the sampling and analysis requirements found in 40 CFR 136.

2 Minimum sample volume recommended. Specific volume requirements will vary by laboratory; please check with your laboratory when setting up bottle orders.

3 Use either TSS or SSC, or both, for suspended solids analysis. Upstream and downstream samples should be analyzed by the same method.

3.4 Deciding Where to Sample

In-stream sampling is required, both upstream and downstream of the discharge. The CGP does not require that the effluent be sampled. However, effluent sampling is recommended. Take both upstream and downstream samples within the actual flow of the waterbody. Collect samples at the following locations:

- Sample the 303(d) listed water body upstream of the construction site discharge in a location representative of the sediment load present in the water body before it is impacted by discharge from the construction site.

- Sample the 303(d) listed water body at a point immediately downstream of the last point of discharge from the construction site.

Additionally, for the purpose of interpreting the results of the samples collected from the 303(d) listed water body, collect and analyze samples of the actual discharge from the construction site (effluent sample) prior to it being commingled in the receiving water. This sample can be used to verify whether the source of the sediment in-stream is emanating from the construction discharge. Remember that samples should only be collected from safely accessible locations.

In general, sample away from the bank in or near the main current. Avoid collecting samples directly from ponded, sluggish, or stagnant water. Be careful when collecting water upstream or downstream of confluences or point sources to minimize problems caused by backwater effects or poorly mixed flows. Note that samples collected directly downstream from a bridge can be contaminated from the bridge structure or runoff from the road surface.

Choose the upstream location in water that appears to represent the nature of the flow in the stream.

Downstream samples should represent the receiving water mixed with flow from the construction site. For instance if the flow from the site can be observed by either a color or a flow difference, collect the downstream sample from within the affected water.

3.5 What Are the Applicable Water Quality Standards

The CGP requires sampling of runoff from construction sites that discharge directly to 303(d) listed water bodies to demonstrate that discharges do not contribute to the impairment of the receiving water. Each of the listed waters is subject to water quality objectives in a RWQCB Basin Plan for sediments and solids or for turbidity. The applicable water quality objectives for each RWQCB are listed in Appendix A to this guidance document.

3.6 Deciding How to Sample

- Only personnel trained in water quality sampling procedures should collect storm water samples.

- Determine sampling methods and locations in advance of the runoff event in order to provide sufficient time to gather the supplies and equipment necessary to sample and plan for safe access by the sampling crew(s) and document them in the SWPPP.

- General guidance for sampling procedures is provided in Section 4 of this document.

3.7 How to Use Your Data

3.7.1 How to Analyze Your Data

While it is desirable for sediment concentrations from a site to be as low as possible, the amount that a site can contribute is determined by a TMDL analysis and in the absence of an implemented TMDL, the instream concentrations below the point of discharge cannot be significantly different from the upstream concentrations.

In order to allow for meaningful analysis of the data, it is necessary to establish a statistical framework for it. When sampling a body of water, it is unlikely that two samples, even taken next to each other, will have the same concentration of a pollutant. This is referred to as variability. Concentrations will vary from sample to sample, but the difference between them may not be meaningful. In order to obtain a statistically meaningful set of samples, it is necessary to determine how many samples will be necessary, the greater the variability between samples, the larger the number of samples (N) will be required. This may require that the water body be sampled before the start of construction to determine the variability. Collect sufficient numbers of samples (N) during each storm event monitored to represent the prevailing conditions of both locations (upstream and downstream). Depending upon which statistical test is used, and the variability between the samples, N will usually be more than a single sample. When comparing samples from a single storm event, a range of readings will be obtained. Almost all samples from that source will fall into that range. The likely range of readings can be expressed through the use of a statistical confidence interval for the parameter being sampled. Confidence intervals are expressed as probabilities, such as 95% confidence or 97% confidence. The size of a confidence interval will be determined by the variability in the samples from the single source and the number of samples collected.

Once the sampling is completed and results returned from the laboratory, compare the concentration of the appropriate parameter (see Section 2.3 Deciding What Constituents to Sample for)) derived from the upstream samples to the concentration of the same parameter from the downstream samples (from the same storm event). It is expected that every sample will be different. (This would be true even if there were not construction activities, in light of the variability of stream conditions, explained above.) Rather, compare the samples to see if there is a statistically significant difference between the central tendency (arithmetic mean, geometric mean, median, etc.) of the upstream samples and the downstream samples.

Estimate the magnitude of the difference in the central tendency between the upstream and downstream concentration values. The null hypothesis to be tested is: The difference between the downstream central tendency and the upstream central tendency is less than or equal to zero. The minimum acceptable confidence interval shall be 90%. Using the data, calculate a one-sided lower confidence limit (LCL) on the difference in central tendencies. If the numeric value of zero

is contained within the confidence interval (LCL), then you cannot reject the null hypothesis, and you would conclude that no impairment has occurred. If, however, the data indicates that the downstream central tendencies are significantly higher than the upstream, you cannot accept the null hypothesis. In this case there is the presumption that the discharges are contributing to the existing impairment.

If you did take samples of the effluent, and those samples are not consistent with the conclusion that the discharge is contributing to the existing impairment, take steps to determine what other source(s) is causing the increase in the downstream sampling. If you can show that there is a different source than your discharge, you should contact the appropriate RWQCB.

The hypothesis, sampling methodology, confidence interval, and statistical tests and assumptions must be defensible to the RWQCB. Since construction sites that discharge *directly* into impaired water bodies are not common in California, the local RWQCB will likely ask to review the SWPPP and the sampling and analysis strategy prior to construction activity.

3.7.2 Sources of sediment, silt and turbidity in a construction discharge

Conditions or areas on a site that may be causing sediment, silt, and/or turbidity in your storm water runoff may include:

- Exposed soil areas with inadequate erosion control measures
- Active grading areas
- Poorly stabilized slopes
- Lack of perimeter sediment controls
- Areas of concentrated flow on unprotected soils
- Poorly maintained erosion and sediment control measures
- Unprotected soil stockpiles
- Failure of an erosion or sediment control measure
- Unprotected Clayey soils

3.7.3 What To Do If Your Data Shows a Statistically Significant Increase Downstream of the Discharge

The CGP requires that BMPs be implemented on the construction site to prevent a net increase of sediment load in storm water discharges relative to pre-construction levels. Although the upstream reference (background) sample may not be representative of pre-construction levels at your site, it will provide a basis for comparison with the sample taken downstream of the construction site.

If the statistical tests of the upstream and downstream samples indicate an increase in silt, sediment and/or turbidity, follow the reporting requirements as shown in the Receiving Water Limitations of the CGP. If you have collected samples of the discharge from your site, use these results to help identify if it is your project that is discharging sediment into the receiving water. It is recommended that the following steps be taken as soon as possible.

- Identify the source of the silt, sediment or turbidity
- Review effectiveness of existing erosion control BMPs. The sediment may be coming from locations at the construction site where existing erosion control BMPs have been reduced in effectiveness. These BMPs should be evaluated to determine whether they are in need of maintenance.
- Review effectiveness of existing sediment control BMPs. The sediment may be coming from locations at the construction site where existing sediment control BMPs have been reduced in effectiveness. These BMPs should be evaluated to determine whether they are in need of maintenance.
- Look for evidence that there are too few sediment and erosion control BMPs. In inspecting the site, sources of sediment that either do not have BMPs or for which the BMPs appear to be insufficient in number or type may be identified.
- Repair or replace any BMP that has failed or is in need of maintenance
- Evaluate whether additional or alternative BMPs should be implemented to provide an effective combination of erosion and sediment control measures on the site. Do not rely solely on perimeter sediment controls, particularly where there are fine-grained soils (such as silts or clays) on the site. Implement erosion controls (source controls) that keep the soil in place, even on temporary slopes and rough graded areas, wherever possible and as necessary to prevent sediment from leaving the site.

If sampling and analysis during subsequent storm events shows that there is still a statistically significant difference, then repeat the steps above until the analytical results of the upstream concentration samples are within the confidence interval.

3.8 Retention of Data

Keep results of field measurements and laboratory analyses with the SWPPP, which is required to be kept on the project site until the NOT is filed and approved by the appropriate RWQCB. Keep training logs, Chain-Of-Custody (COC) forms and other documentation relating to sampling and analysis with the project's SWPPP. All records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated or after project completion.

4.0 Sampling Procedures

The collection and handling of storm water runoff samples requires care to ensure the integrity and validity of the samples. A Chain of Custody (COC) form, must follow the sample from the

collection through the analysis process. Additional documentation to track other information of interest, e.g. field conditions, or required field measurements may also be used. This type of information is recorded on a field tracking form.

Collect all samples with care to ensure that the sample is representative of the runoff being tested, use the correct type of container, preserve samples in accordance with the test method's specifications, and store at the appropriate temperature until delivered to an analytical laboratory. Some types of samples have very short holding times and must be analyzed before this holding time is exceeded. Sample handling requirements and documentation form the basis of your sampling quality assurance program.

Before starting any sampling program, contact the analytical laboratory that you plan to use to analyze your samples. Make sure to select a laboratory that will provide you with the support that you need, such as, properly cleaned and preserved sampling containers and COC forms. Some laboratories can assist in identifying courier services available to transport samples to the laboratory, or may be able to provide sampling service for you. Work out all of these details in advance of sample collection. Consult the analytical laboratory on what additional samples will be required for quality assurance and quality control purposes.

Both field and/or analytical analysis methods can be used to meet the Permit requirements. Field techniques have the advantage of providing immediate results, however, there are only a limited number of analyses that can be done in the field. Analytical laboratories can analyze for a wide range of parameters, but the data may take several weeks or longer to get back.

Some constituents (e.g. pH) can be evaluated in the field with special equipment. Field samples must be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Field equipment must be used by trained staff and the equipment must be calibrated and maintained according to the manufacturer's specifications.

Laboratory analyses should be conducted by a laboratory that is currently accredited by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). Analyses must be conducted in accordance with 40 CFR Part 136.

You may refer to the California Department of Transportation (Caltrans) *Guidance Manual: Stormwater Monitoring Protocols (Second Edition), July 2000* to assist you in developing a sampling and analysis program. This document may be downloaded from the Caltrans Website, at

http://www.dot.ca.gov/hq/construc/stormwater/SamplingGuidanceManual.pdf

Figure 4-1 is an outline for a typical comprehensive storm water sampling and analysis plan. As some laboratories may have specific requirements for sample collection and handling, specific information or requirements on your samples should be checked with your laboratory.

1 PROJECT OVERVIEW/DESCRIPTION
- 1.1 Description of why the project is being conducted
- 1.2 Description of who is conducting the project
- 1.3 General scope of monitoring activities
- 1.4 Project organization/roles and responsibilities

2 MONITORING SITES
- 2.1 Site location (map)
- 2.2 Written driving directions
- 2.3 Site access instructions (gates, locks, keys, combinations)
- 2.4 Notification procedures

3 ANALYTICAL CONSTITUENTS
- 3.1 List of constituents for sampling and analysis (including sample collection methods, container type, volume required, preservation and laboratory performing analysis)

4 DATA QUALITY OBJECTIVES (DQOs)
- 4.1 Analytical reporting limits
- 4.2 Analytical precision, accuracy and completeness

5 FIELD EQUIPMENT MAINTENANCE
- 5.1 Equipment calibration
- 5.2 Equipment maintenance
- 5.3 Equipment cleaning (bottles/lids/tubing)

6 MONITORING PREPARATION AND LOGISTICS
- 6.1 Weather tracking
- 6.2 Storm selection criteria
- 6.3 Storm action levels
- 6.4 Communications/notification procedures
- 6.5 Sample bottle order
- 6.6 Sample bottle labeling
- 6.7 Field equipment preparation

7 SAMPLE COLLECTION, PRESERVATION AND DELIVERY
- 7.1 Sample collection methods
- 7.2 Field measurement methods
- 7.3 Field equipment list
- 7.4 Sample containers, preservation and handling
- 7.5 QA/QC sample collection methods
- 7.6 Sample labeling (site names, codes, etc.)
- 7.7 Composite sample splitting
- 7.8 Forms and procedures for documenting sample collection and field measurements
- 7.9 Laboratory communication procedures
- 7.10 Sample shipping/delivery, chain-of-custody

8 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)
- 8.1 Field procedures for QA/QC sample collection

9 LABORATORY SAMPLE PREPARATION AND ANALYTICAL METHODS
- 9.1 Laboratory sample preparation procedures
- 9.2 Analytical constituent table (including analytical methods, holding times and reporting limits)

10 DATA MANAGEMENT AND REPORTING PROCEDURES
- 10.1 Analytical data validation
- 10.2 Electronic data transfer
- 10.3 Filing of electronic and hard copy data
- 10.4 Reports

APPENDICES
- A Clean Sampling Techniques
- B Health and Safety Plan

Figure 4-1 Outline for a Typical Storm Water Sampling and Analysis Plan

5.0 Definitions

Chain of Custody (COC) Form
The COC Form is a form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

Direct Discharge
Direct discharge means storm water runoff that flows from a construction site directly into a 303(d) water body listed for sedimentation, siltation, or turbidity. Storm water runoff from the construction site is considered a direct discharge to a 303(d) listed water body unless it first flows through:

1) A municipal separate storm sewer system (MS4) that has been formally accepted by and is under control and operation of a municipal entity;

2) A separate storm water conveyance system where there is co-mingling of site storm water with off-site sources; or

3) A tributary or segment of a water body that is not listed on the 303d list before reaching the 303d listed water body or segment.

Discharger
The discharger is the person or entity subject to the CGP.

Electrical Conductivity (EC)
EC is a measure of the ability of water to carry an electric current. This ability depends on the presence of ions, their concentration, valence, mobility and temperature. EC measurements can give an estimate of the variations in the dissolved mineral content of storm water in relation to receiving waters.

Field Measurements
Field measurements refers to water quality testing performed in the field with portable field-testing kits or meters.

Field Tracking Form (FTF)
The FTF is a form that serves as a guide to sampling crews to obtain sampling information and to prescribe and document sample collection information in the field. The FTF usually contains sample identifiers, sampling locations, requested analyses, Quality Control (QC) sample identifiers, special instructions, and field notes.

Holding Time
Holding time is specified by the analytical method and is the elapsed time between the time the sample is collected and the time the analysis must be initiated.

pH

The pH is universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Reference Sample
A sample taken from an undisturbed part of the construction site or from an undisturbed site immediately upstream from a construction site. The reference sample is used for comparison with samples taken from the active construction site. It is the same set of samples that is referred to as an uncontaminated sample in the Permit.

Sampling and Analysis Plan
A document that describes how the samples will be collected and under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

Sediment
Sediment is solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation/Siltation
Sedimentation/siltation is the process of sediment/silt deposition.

Setteable Solids
The setteable solids (SS) test measures the solid material that can be settled within a water column during a specified time frame. This typically is tested by placing a water sample into an Imhoff settling cone and allowing the solids to settle by gravity. Results are reported either as a volume (mL/L) or a weight (mg/L).

Silt
Silt are soil particles between 0.05mm and 0.002mm in size. (For the purposes of its use here, it also includes clay, which is categorized by a particle size less than 0.002mm.)

Soil Amendment
Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water. Certain soil amendments may not be visible in site runoff. Soil amendments likely to fall in this category include lime, cementitious binders, chlorides, emulsions, polymers, soil stabilizers, and tackifiers applied as a stand-alone treatment (i.e., without mulch). Even some of these products may bind with the soil, and thus be visible. In contrast, plant fibers (such as straw or hay), wood and recycled paper fibers (such as mulches and matrices), bark or wood chips, green waste or composted organic materials, and biodegradable or synthetic blanket fibers are soil amendments that are likely to be visible in storm water runoff.

Suspended Sediment Concentration (SSC)

The suspended sediment concentration (SSC) test measures the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

Total Suspended Solids (TSS)

Suspended solids in a water sample include inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The total suspended solids test (TSS) test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Turbidity

Cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The scattering of light increases with a greater suspended load. Turbidity is commonly measured in Nephelometric Turbidity Units (NTU).

6.0 Sources of Further Assistance

Regional Water Quality Control Boards

Regional Water Quality Control Board	Address	Contact Name E-mail	Telephone/Fax
NORTH COAST REGION	5550 Skylane Blvd., Suite A Santa Rosa, CA 95403	John Short shorj@rb1.swrcb.ca.gov	(707) 576-2065 FAX: (707) 523-0135
SAN FRANCISCO BAY REGION	1515 Clay St., Suite 1400 Oakland, CA 94612	Mark Johnson stu36@rb2.swrcb.ca.gov	(510) 622-2493 FAX: (510) 622-2460
CENTRAL COAST REGION	895 Aerovista Place., Suite 101 San Luis Obispo, CA 93401	Jennifer Bitting jbitting@rb3.swrcb.ca.gov	(805) 549-3334 FAX: (805) 543-0397
LOS ANGELES REGION	320 W. 4th St., Suite 200 Los Angeles, CA 90013	Ejigu Soloman (Ventura County) esoloman@rb4.swrcb.ca.gov	213) 576-6727 FAX: (213) 576-6686
CENTRAL VALLEY REGION Sacramento Office	11020 Sun Center Drive, #200 Rancho Cordova, CA 95670	Sue McConnell mcconns@rb5s.swrcb.ca.gov George Day DayG@rb5s.swrcb.ca.gov Dannas Berchtold BerchtD@rb5s.swrcb.ca.gov Rich Muhl MuhlR@rb5s.swrcb.ca.gov	(916) 464-4798 FAX: (916) 464-4681 (916) 464-6404 FAX: (916) 464-4681 (916) 464-4683 FAX: (916) 464-4681 (916) 464-4749 FAX: (916) 464-4681
CENTRAL VALLEY REGION Fresno Branch Office	E. Street Fresno, CA 93706	Brian Erlandsen ErlandsenB@rb5f.swrcb.ca.gov	(559) 445-6046 FAX: (559) 445-5910
CENTRAL VALLEY REGION Redding Branch Office	415 Knollcrest Dr. Redding, CA 96002	Carole Crowe crowec@rb5r.swrcb.ca.gov	(530) 224-4849 FAX: (530) 224-4857
LAHONTAN REGION South Lake Tahoe Office	2501 Lake Tahoe Blvd. South Lake Tahoe, CA 96150	Jason Churchill Jchurchill@rb6s.swrcb.ca.gov	(530) 542-5571 FAX: (530) 544-2271
LAHONTAN REGION Victorville Office	15428 Civic Dr., Suite 100 Victorville, CA 92392	Doug Feay Dfeay@rb6v.swrcb.ca.gov Ted Saari Tsaari@rb6v.swrcb.ca.gov	(760) 241-7353 FAX: (760) 241-7308 (760) 241-7407

Regional Water Quality Control Board	Address	Contact Name E-mail	Telephone/Fax
COLORADO RIVER BASIN REGION	73-720 Fred Waring Dr., Suite 100 Palm Desert, CA 92260	Abdi Haile haila@rb7.swrcb.ca.gov Rosalyn Fleming flemr@rb7.swrcb.ca.gov	(760) 776-8939 FAX: (760) 341-6820 (760) 776-8939 FAX: (760) 341-6820
SANTA ANA REGION	3737 Main St., Suite 500 Riverside, CA 92501-3339	Michael Roth (Riverside County) mroth@rb8.swrcb.ca.gov Aaron Buck (Orange County) abuck@rb8.swrcb.ca.gov Muhammad Bashir (San Bernardino County) mbashir@rb8.swrcb.ca.gov	(909) 320-2027 FAX: (909) 781-6288 (909) 782-4469 FAX: (909) 781-6288 (909) 320-6396 FAX: (909) 781-6288
SAN DIEGO REGION	9174 SkyPark Court, Suite 100 San Diego, CA 92123	Benjamin Tobler Toblb@rb9.swrcb.ca.gov Eric Becker Becke@rb9.swrcb.ca.gov Ben Neill Neilb@rb9.swrcb.ca.gov	(858) 467-3272 (858) 492-1785 (858) 467-2983 FAX: (858) 571-6972

State Water Resources Control Board
Division of Water Quality
Storm Water Permit Section
P.O. Box 1977
Sacramento, CA 95812-1977
Construction Inquiry Line: (916) 341-5537
Web Site: http://www.waterboards.ca.gov/
e-mail: stormwater@waterboards.ca.gov

How to Obtain a List of State Certified Laboratories
http://www.dhs.ca.gov/ps/ls/elap/html/lablist_county.htm

Other Useful Web Sites

California Stormwater Quality Association http://www.casqa.org/

California Department of Transportation
Environmental Program http://www.dot.ca.gov/hq/env/index.htm

Storm Water Management Program http://www.dot.ca.gov/hq/env/stormwater/

7.0 Explanation of Sampling and Analysis Requirements

The sampling and analysis provisions were added to the CGP in response to the writ of mandate issued in *San Francisco BayKeeper v. California State Water Resources Control Board* (Sacramento County Superior Court, No. 99CS01929). The SWRCB has now been directed to provide explanation and direction for dischargers subject to the sampling and analysis requirements. One issue that is at the heart of this direction is that the SWRCB must explain how dischargers should interpret the results of the required sampling and analysis in deciding whether they are in compliance with the permit's receiving water limitations requirements. In essence, can the sampling and analysis results be used to provide a reliable answer to the question whether the discharge is causing or contributing to exceedance of water quality standards? As is explained below, the answer is a qualified "yes," in that the results must by used in concert with other information and in accordance with a logical process exercising best professional judgment. The results from the sampling and analysis will provide information regarding whether or not the BMPs are effective, and may provide some evidence of causing or contributing to exceedance of water quality standards. But the sampling and analysis requirements in a storm water permit are ultimately a diagnostic tool, and are not a guaranteed method of determining compliance with the receiving water limitations.

7.1 Requirement for Compliance With Water Quality Standards

The SWRCB is well aware of the requirement that it must issue industrial storm water permits, including the CGP, with requirements that require "strict compliance" with water quality standards. (CWA §402(p)(3)(A).) It is also aware that USEPA has concluded that in general it is not appropriate or legally required to include numeric, water quality-based effluent limitations in storm water permits. (40 CFR 122.44(k)(2).) In addition, we note that USEPA does not require sampling and analysis in industrial storm water permits (40 CFR §122.44(i)(4)) and it has elected not to include any sampling or analysis requirements in its own recently issued general construction permit. (See, http://cfpub.epa.gov/npdes/stormwater/cgp.cfm.) USEPA has explained the limitations of sampling and analysis in industrial storm water permits. (See, 57 Fed. Reg. 11394 et seq. (1992).)

USEPA has addressed the relationship between BMPs and water quality standards, and has determined that almost all storm water discharges can be adequately controlled to meet water quality standards through BMPs. (NPDES Storm Water Program Questions and Answers, 1/21/04.) USEPA states that to evaluate effectiveness, NPDES permits may at the discretion of the permitting authority require visual inspections, evaluation of environmental indicators or measurable goals, effluent monitoring, or in-stream monitoring. (*Id.*) USEPA has made clear, both in its regulations and its guidance documents, that monitoring requirements are not necessary to enforce compliance with water quality standards. (In fact, neither EPA nor any state we are aware of has chosen to include monitoring requirements equivalent to, or more robust than, those already in place in the CGP.) Certainly, there is no legal requirement that the permitting authority must "prove" that a specific monitoring result is conclusive evidence of exceedance of a water quality standard. USEPA has conducted studies and modeling showing that existing permit programs as of 2003 were already capable of controlling approximately 80-90% of sediment runoff from construction sides, and that more stringent rules would remove

only 1% more. (USEPA Withdrawal of Proposed Effluent Limitation Guideline for Construction Industry, Volume 69, Federal Register 22472 et seq., April 26, 2004.) In conducting its state equivalency analysis, USEPA evaluated all states' programs, including California's, and determined that these were adequate and that further requirements were not mandated for compliance with federal law.

In USEPA's analysis of monitoring for construction (EPA-821-R-02-007), it concludes that planning monitoring for storm water is not possible because the flows are highly variable and temporarily stochastic. USEPA also notes that several of the criteria that could be used have special measurement problems because they are based on trapping efficiency, which is very difficult to measure. The most commonly used measurements, such as TSS, also have problems because to measure average or peak TSS it is necessary to measure TSS in the effluent over the duration of the outflow hydrograph as well as the flow rate. This requires that multiple samples be taken and that the samples be centered around the peak discharge. This is time consuming and difficult since the timing of an event and the timing of the peak discharge are not known beforehand. The average concentration is a weighted concentration, using flow rate as a weighting function.

USEPA also conducted an extensive evaluation of the literature to identify pollutants present in storm water discharges from construction sites. They found that while the literature contains extensive information on pollutants present in storm water discharges from urban areas, there were little data available on pollutants present in storm water discharges from construction sites during the active construction phase, other than for sediment, TSS and turbidity. USEPA was not able to identify sufficient data in the literature to warrant development of controls specific to pollutants other than sediment, TSS and turbidity in storm water discharges from construction sites. Some literature suggests that pollutants adhere to sediment, so that regulating TSS should also act as a control for other pollutants.

USEPA also evaluated the inclusion of organics, pesticides, and bacteria as potential pollutants of concern, but the literature indicated that control of these pollutants through conventional storm water management strategies is potentially much more difficult, and that there are little data linking their presence in storm water discharges directly with new land development activities. Source control (implementation of BMPs) may factor greatly into controlling these pollutant sources.

Permit compliance is based on the degree of control that can be achieved using various levels of pollution control technology (BMPs), a visual inspection requirement, coupled with parameter sampling in the instances where exposure has been determined. A storm water sample for non-visible pollutants indicating contamination is not conclusive proof of either a receiving water violation or of compliance with the Permit. But, it should give the discharger enough information to eliminate the source, detain the discharge, improve the BMPs, or take whatever action is necessary to abate the problem.

In the case of a direct discharge of sediment to a water body listed as impaired by sediment, sampling downstream of the discharge that shows a statistically significant increase in sediment over the upstream monitoring is strong evidence that the discharge from the construction site is causing or contributing to the impairment. We have suggested, however, that dischargers who

conduct such sampling should also sample the effluent. They may use the results of such sampling to overcome this presumption should the effluent sampling not be consistent with the downstream results. The case of a direct discharge of sediment to a water body impaired by sediment is a far simpler case than discharges that are indirect, that contain pollutants for which there may be assimilative capacity, or that contain pollutants that may be diluted in the receiving water. In those cases there is no simple way to conclude from sampling and analysis whether an applicable water quality standard is impacted by the storm water discharge. Instead, the data are most useful in alerting the discharger to the need to review BMPs and source control and should trigger a visual inspection.

The final determination as to whether discharges are in compliance with water quality standards will be made by RWQCBs through enforcement and other compliance activities. The sampling and analysis results are relevant, as is visual inspection and evaluation of BMPs. This method of assessment is known as "best professional judgment" and is consistent with USEPA's approach to regulating storm water discharges. This is the appropriate and lawful method of regulation pending adoption of effluent limitation guidelines by USEPA. (CWA §301.) USEPAproposed such guidelines for construction sites, but decided against adopting effluent limitation guidelines for storm water discharges associated with construction activity. (Effluent Guidelines Construction and Development Fact Sheet: Final Action – Selection of Non-Regulatory Option; EPA 821-F-04-001; March 2004; final action is at Volume 69, Federal Register 22472 et seq., April 26, 2004.) In taking this Final Action, USEPA concluded that the current system that allows states to develop their own programs is adequate and will result in "significant improvements in water quality and in the control of discharges of construction site stormwater runoff." In conducting its investigation of existing programs, USEPA found that every state already has regulations and programs in place that incorporate most of the provisions that USEPA considered in its most stringent proposal. USEPA further states that the following components of a construction program are: (1) Require preparation of a SWPPP; (2) Require site inspections by dischargers on a regular basis; (3) Require a combination of erosion and sediment controls; and (3) Require stabilization of soils after construction. USEPA decided that the existing programs (which do not require monitoring) are adequate and that any further regulatory requirements imposed by USEPA would be too costly and "would provide only marginal environmental improvements over regulations already in place." USEPA further concluded that additional controls would make housing unaffordable. Even when USEPA initially proposed adopting an effluent limitation guideline, it rejected even considering any monitoring requirements. In discussing the option of requiring monitoring in construction permits, USEPA listed several concerns, including that a national monitoring requirement would be impractical and that monitoring receiving waters at most construction sites is infeasible. (Effluent Limitation Guidelines and New Source Performance Standards for the Construction and Development Category: Proposed Rule, 67 Federal Register 42644, 42658-9 (6/24/02).) USEPA concluded that: "All of these factors would add significant expense to the construction process, with little or no added assurance in the effectiveness of control measures or expected environmental benefits." (*Id.*)

7.2 Background Contamination

The Court asked the SWRCB to explain the need for background (reference) sampling for non-visual pollutants. In essence, the Court question is why is it relevant whether the construction activity "increased" the level of pollutants in the runoff if pre-existing pollutants in runoff could also be of concern. There are several responses to this question. First, the CGP is intended to be a permit for storm water discharges associated with construction activity. (CWA §402(p); construction that disturbs greater than one acre is considered an industrial activity (40 CFR §122.26(b)(14)(x) and (15).) At this time, Congress has determined that it is not appropriate to regulate storm water runoff in general, and that only specified types of storm water discharges are subject to permitting. In fact, even at industrial sites, only the portions of the site that are used for industrial activities are subject to permitting. (40 CFR §122.26(b)(14).) Second, the focus of the CGP is on BMPs, and assuring that they are effective in preventing pollutants associated with construction activity from entering receiving waters. Where there are pollutants entering receiving waters, the required action is, through the iterative process in the Receiving Water Limitations, to evaluate and improve BMPs. Eliminating the source of contamination is the most direct and desirable approach to regulating construction runoff.

Regardless of whether a construction site owner *could* be held liable for historical contaminants running off the site, the purpose of the "reference" sample is clear: the permit does not contain numeric effluent limitations and is based on the BMP approach.[1] The two samples compare whether the BMPs that have been installed to prevent the non-visible pollutants associated with construction activity from entering receiving waters are effective. If "control samples" were not taken, the use of sampling to help determine permit compliance would be thwarted. If BMPs, including good housekeeping (source control) BMPs, are properly installed and maintained, they will effectively control the transportation of most pollutants. The background sampling will verify this fact. It is noted that the permit does require identification of historical pollutants, including pollutants that are the result of past usage. (CGP section A.5.b.3.) Sampling for these pollutants is required if the construction activity (e.g., disturbance of soil impacted by prior use) result in the mobilization and runoff of these pollutants.

The Court stated that USEPA documents indicate that reference sample collection and comparison may be unsuitable for persistent bio-accumulative pollutants. (The court cited USEPA's Water Quality Guidance for the Great Lakes System: Supplementary Information Document (GLSID), at p. 63.) A California Court of Appeal recently had occasion to discuss the appropriate regulation of persistent bio-accumulative pollutants in NPDES permits. In *Communities for a Better Environment v. SWRCB* (2003) 109 Cal. App. 4th 1089 (hrg. denied), the court upheld a permit for a refinery that did not include final numeric effluent limitations for dioxins, which are bio-accumulative pollutants. The court upheld an approach relying on BMPs and a watershed approach to dealing with persistent bio-accumulative pollutants through other methods, such as a TMDL. The GLSID adopted by USEPA describes a watershed approach to controlling and eliminating persistent pollutants, which will include adoption of TMDLs. (See, GLSID at p. 247) It is not limited to adoption of NPDES permits, and does not even address

[1] The Court has upheld this approach. See, Ruling on Submitted Matter, *San Francisco BayKeeper v. California SWRCB,* p. 5-6.

construction storm water permits in the region. The reference on page 63 concerns the appropriate approaches for TMDLs, not for construction storm water permits. USEPA concludes in the GLSID that the TMDL process is the appropriate means of effectively addressing persistent bio-accumulative pollutants.

Pollutants such as the Persistent Bio-accumulative and Toxic chemicals (PBT) currently being addressed under USEPA's PBT initiative [2] are not closely associated with modern day construction activity. The listed pesticides could possibly be found, however, as historic pollutants in the soil if the construction site had been used for agriculture prior to the 1970s (the 1990s in the case of toxaphene). Information about PBTs can be found through http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml Persistent bio-accumulative pollutants are strongly associated with soils and soil particles, so an aggressive erosion and sediment control program combined with visual inspections is the most understandable and cost-effective approach to controlling the discharge of such pollutants from construction activity.

If the area that the construction site is located in has prior contamination from PBTs, such issues should be dealt with on a watershed-based approach, such as a TMDL for the particular pollutant. The Construction CGP is not intended to address such issues. On the other hand, the permit does require all dischargers to control soil erosion and the movement of products of erosion off the site via the storm water discharge. Mobilization of pesticide residue by construction activity may trigger sampling and analysis requirements.

7.3 Parameters to Sample for to Determine the Presence of Non-Visible Pollutants in Runoff

It has been suggested that construction dischargers should consult the CTR, and then design a sampling strategy to sample their discharge for all non-visible CTR pollutants based on the numerical values provided. The CTR pollutants and numerical limits, however, have limited relevance to construction activity or storm water pollution from construction sites. The CTR pollutants currently known to be used and commonly found on construction sites can be found through http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Of greater concern for construction discharges are the pollutants found in materials used in large quantities throughout California and exposed throughout the rainy season such as cement, fly-ash, and other recycled materials or by-products of combustion. (But many of these materials may be visible in runoff, affecting color for example.) The water quality standards for these materials will depend on their composition. Some of the more common storm water pollutants from construction activity such as glyphosate (herbicides), diazinon and chlopyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants) are not CTR pollutants. The use of diazinon and chlopyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if applications come into contact with storm water.

Other more common storm water contamination problems resulting from construction activity such as high pH values from cement and gypsum, high pH and TSS from wash waters and

[2] http://www.epa.gov/opptintr/pbt/aboutpbt.htm

chemical and fecal contamination from portable toilets are also not CTR pollutants. Some of these constituents do have numeric water quality objectives in individual Basin Plans, but many do not and are subject to narrative water quality standards such as not causing toxicity. This Fact Sheet provides direction on how to ascertain the applicable water quality standards for the receiving water. Of more use will be information the SWRCB will distribute upon completion of a contract with the University of California, which will list the most common pollutants, describe which construction materials they are associated with, and suggest parameters for sampling. At this time, dischargers are encouraged to discuss these issues with RWQCB staff and their own knowledgeable representative or Storm Water Quality Professionals..

7.4 The Watershed Approach to Storm Water Permitting

USEPA has endorsed a watershed approach to storm water permitting that focuses on BMPs in lieu of numeric effluent limitations and visual inspection and indicator monitoring in lieu of sampling for individual pollutant parameters. (Questions and Answers Regarding Implementation of an Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Fed. Reg. 57424 (11/6/96)). In a memorandum dated November 22, 2002, USEPA issued guidance on the interaction between storm water permits and TMDLs. The memorandum explains that, even in the case where a TMDL has been finalized and a wasteload allocation established for storm water discharges, the inclusion of numeric effluent limitations will be "rare." The memorandum therefore discusses monitoring requirements in BMP-based permits. It states that the monitoring should assess the effectiveness of the BMPs (i.e., appropriate monitoring is visual inspection) and *if monitoring for storm water is required*, it should be consistent with the state's watershed approach.

7.5 References and Record for this Guidance Document

In preparing this guidance document, the SWRCB has relied upon numerous background materials including federal statutes, regulations and guidance materials. These materials include Clean Water Act sections 303(d) and 402(p) and federal regulations implementing section 402(p) including 40 CFR sections 122.26, 122.44, 122.48, and Part 131. The SWRCB has also relied several guidance documents from USEPA. These include the preambles to the various storm water regulatory actions: 55 Fed. Reg. 47990 et seq. (11/16/90), 57 Fed. Reg. 11394 et seq. (4/2/92), and 64 Fed. Reg. 68722 et seq. The SWRCB has relied on the Porter-Cologne Water Quality Control Act (Water Code section 13000 et seq.), and implementing state regulations at Title 23, California Code of Regulations. The SWRCB has also relied on relevant court decisions, including: *Communities for a Better Environment v. SWRCB* (2003) 109 Cal. App. 4th 1089 (hrg. denied) (Water Boards have broad discretion in adopting effluent limitations for impaired waters). The SWRCB has also reviewed the recently-adopted USEPA general construction permit, published at http://cfpub.epa.gov/npdes/stormwater/cgp.cfm. and USEPA's decision not to adopt effluent limitations guidelines for storm water discharges from construction activities (Volume 69, Federal Register 22472 et seq., April 26, 2004) The SWRCB has also reviewed the USEPA multi-sector general permit for industrial activities (65 Fed. Reg. 64746 et seq. (10/30/00) and a general construction permit issued by USEPA Region IV (65 Fed. Reg 25122 et seq. (4/28/00). The record also contains submittals received by the SWRCB from

interested persons including the Keepers organizations, the Building Industry Legal Defense Foundation and the California Building Industry Association.

APPENDIX A
WATER QUALITY OBJECTIVES FOR SUSPENDED MATERIALS, SETTEABLE MATERIALS, SEDIMENT AND TURBIDITY

Below is a compilation of the water quality objectives for suspended materials, setteable material, sediment and turbidity as of August 2003 for each of the Regional Water Quality Control Boards. The water quality objectives are found in chapter 3 (unless otherwise noted) of the RWQCB's Basin Water Quality Control Plan (Basin Plan). Some of the weblinks go directly to Chapter 3 and others will go to the Basin Plan.

North Coast Regional Water Quality Control Board – Region 1

http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/

Suspended Material
Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Setteable Material
Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

Sediment
The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity
Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

San Francisco Bay Regional Water Quality Control Board – Region 2

http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#2004basinplan

Sediment
The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.

Setteable Material
Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Suspended Material
Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.

Central Coast Regional Water Quality Control Board – Region 3

http://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/index.shtml

Suspended Material
Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Setteable Material
Waters shall not contain setteable material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.

Sediment
The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Increase in Turbidity attributable to controllable factors shall not exceed the following limits:

1. Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20 percent.
2. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU
3. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.

Allowable zones of dilution within which higher concentrations will be tolerated will be defined for each discharge in discharge permits.

Los Angeles Regional Water Quality Control Board - Region 4

http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/

Solid, Suspended, or Setteable Materials
Waters shall not contain suspended or setteable material in concentrations that cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable factors shall not exceed the following limits:

Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%.

Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

Allowable zones of initial dilution within which higher concentrations will be tolerated may be defined for each discharge in specific Waste Discharge Requirements.

Central Valley Regional Water Quality Control Board – Region 5

Sacramento River and San Joaquin River Basins

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml

Sediment
The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Setteable Material
Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

Suspended Material
Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

Exceptions to the above limits will be considered when a dredging operation can cause an increase in turbidity. In those cases, an allowable zone of dilution within which turbidity in excess of the limits may be tolerated will be defined for the operation and prescribed in a discharge permit.

For Folsom Lake (50) and American River (Folsom Dam to Sacramento River) (51), except for periods of storm runoff, the turbidity shall be less than or equal 10 NTUs. To the extent of any conflict with the general turbidity objective, the more stringent applies.

For Delta waters, the general objectives for turbidity apply subject to the following: except for periods of storm runoff, the turbidity of Delta waters shall not exceed 50 NTUs in the waters of the Central Delta and 150 NTUs in other Delta waters. Exceptions to the Delta specific objectives will be considered when a dredging operation can cause an increase in turbidity. In this case, an allowable zone of dilution within which turbidity in excess of limits can be tolerated will be defined for the operation and prescribed in a discharge permit.

Tulare Lake Basin

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtmlf

Sediment
The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Setteable Material
Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

Suspended Material
Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is equal to or between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

Lahontan Regional Water Quality Control Board - Region 6

http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/index.shtml

Sediment
The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.

Setteable Materials
Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of setteable materials shall not be raised by more that 0.1 milliliter per liter.

Suspended Materials
Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

Colorado River Basin Regional Water Quality Control Board – Region 7

http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/

Suspended Solids and Setteable Solids
Discharges of wastes or wastewater shall not contain suspended or setteable solids in concentrations which increase the turbidity of receiving waters, unless it can be demonstrated to the satisfaction of the RWQCB that such alteration in turbidity does not adversely affect beneficial uses.

Sediment
The suspended sediment load and suspended sediment discharge rate to surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Santa Ana River Regional Water Quality Control Board – Region 8

http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/index.shtml

(See Chapter 4)

Solids, Suspended and Setteable
Enclosed bays and estuaries shall not contain suspended or setteable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

Turbidity
Increases in turbidity which result from controllable water quality factors shall comply with the following:

Natural Turbidity	Maximum Increase
0-50 NTU	20%
50-100 NTU	10 NTU
Greater than 100 NTU	10%

All enclosed bay and estuaries of the region shall be free of changes in turbidity which adversely affect beneficial uses

San Diego Regional Water Quality Control Board – Region 9

http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/

Sediment
The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Suspended and Setteable Solids
Water shall not contain suspended and setteable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Inland surface water shall not contain turbidity in excess of the numerical objectives described in Table 3-2. (This is reference to the Basin Plan; this table can be found via the weblink to the Region 9 Basin Plan).

Ground waters shall not contain turbidity in excess of the numerical objectives described in Table 3-3. (This is reference to the Basin Plan; this table can be found via the weblink to the Region 9 Basin Plan.)

The transparency of waters in lagoons and estuaries shall not be less than 50% of the depth at locations where measurement is made by means of a standard Secchi disk, except where lesser transparency is caused by rainfall runoff from undisturbed areas and dredging projects conducted in conformance with waste discharge requirements of the RWQCB. With these two exceptions, increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

Natural Turbidity	Maximum Increase
0- 50 NTU	20% over natural turbidity level
50 – 100 NTU	10 NTU
Greater than 100 NTU	10% over natural turbidity level

In addition, within San Diego Bay, the transparency of bay waters, insofar as it may be influenced by any controllable factor, either directly or through induced conditions, shall not be less that 8 feet in more than

20 percent of the readings in any zone, as measured by standard Secchi disk. Wherever the waster is less than 10 feet deep, the Secchi disk reading shall not be less than 80 percent of the depth in more than 20 percent of the readings in any zone.

STATE WATER RESOURCES CONTROL BOARD (SWRCB)
ORDER NO. 99 - 08 - DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000002

WASTE DISCHARGE REQUIREMENTS (WDRS) FOR DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY

The State Water Resources Control Board finds that:

1. Federal regulations for controlling pollutants in storm water runoff discharges were promulgated by the U.S. Environmental Protection Agency (USEPA) on November 16, 1990 (40 Code of Federal Regulations (CFR) Parts 122, 123, and 124). The regulations require discharges of storm water to surface waters associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than five acres of total land area and which are not part of a larger common plan of development or sale) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution.

   On December 8, 1999 federal regulations promulgated by USEPA (40CFR Parts 9, 122, 123, and 124) expanded the NPDES storm water program to include storm water discharges from municipal separate storm sewer systems (MS4s) and construction sites that were smaller than those previously included in the program. Federal regulation 40 CFR § 122.26(b)(15) defines small construction activity as including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre or less than five acres or is part of a larger common plan of development or sale. Permit applications for small construction activities are due by March 10, 2003.

2. This General Permit regulates pollutants in discharges of storm water associated with construction activity (storm water discharges) to surface waters, except from those areas on Tribal Lands; Lake Tahoe Hydrologic Unit; construction projects which disturb less than one acre, unless part of a larger common plan of development or sale; and storm water discharges which are determined ineligible for coverage under this General Permit by the California Regional Water Quality Control Boards (RWQCBs). Attachment 1 contains addresses and telephone numbers of each RWQCB office.

3. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to separate storm sewer systems or other watercourses within their jurisdiction, as allowed by State and Federal law.

4. To obtain authorization for proposed storm water discharges to surface waters, pursuant to this General Permit, the landowner (discharger) must submit a Notice of Intent (NOI) with a vicinity map and the appropriate fee to the SWRCB prior to commencement of construction activities. In addition, coverage under this General Permit shall not occur until the applicant develops a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of Section A of this permit for the project. For proposed construction activity conducted on easements or on nearby property by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, the entity responsible for the construction activity must submit the NOI and filing fee and shall be responsible for development of the SWPPP.

5. If an individual NPDES Permit is issued to a discharger otherwise subject to this General Permit or if an alternative General Permit is subsequently adopted which covers storm water discharges regulated by this General Permit, the applicability of this General Permit to such discharges is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the subsequent General Permit.

6. This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with section 13389 of the California Water Code.

7. The SWRCB adopted the California Ocean Plan, and the RWQCBs have adopted and the SWRCB has approved Water Quality Control Plans (Basin Plans). Dischargers regulated by this General Permit must comply with the water quality standards in these Basin Plans and subsequent amendments thereto.

8. The SWRCB finds storm water discharges associated with construction activity to be a potential significant sources of pollutants. Furthermore, the SWRCB finds that storm water discharges associated with construction activities have the reasonable potential to cause or contribute to an excursion above water quality standards for sediment in the water bodies listed in Attachment 3 to this permit.

9. It is not feasible at this time to establish numeric effluent limitations for pollutants in storm water discharges from construction activities. Instead, the provisions of this General Permit require implementation of Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges.

10. Discharges of non-storm water may be necessary for the completion of certain construction projects. Such discharges include, but are not limited to: irrigation of vegetative erosion control measures, pipe flushing and testing, street cleaning, and dewatering. Such discharges are authorized by this General Permit as long as they (a) do comply with Section A.9 of this General Permit, (b) do not cause or contribute to violation of any water quality standard, (c) do not violate any other provision of this

General Permit, (d) do not require a non-storm water permit as issued by some RWQCBs, and (e) are not prohibited by a Basin Plan. If a non-storm water discharge is subject to a separate permit adopted by a RWQCB, the discharge must additionally be authorized by the RWQCB permit.

11. Following adoption of this General Permit, the RWQCBs shall enforce the provisions herein including the monitoring and reporting requirements.

12. Following public notice in accordance with State and Federal laws and regulations, the SWRCB in a public meeting on June 8, 1998, heard and considered all comments. The SWRCB has prepared written responses to all significant comments.

13. This Order is an NPDES permit in compliance with section 402 of the Clean Water Act (CWA) and shall take effect upon adoption by the SWRCB provided the Regional Administrator of the USEPA has no objection. If the USEPA Regional Administrator objects to its issuance, the General Permit shall not become effective until such objection is withdrawn.

14. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA section 404 and does not constitute a waiver of water quality certification under CWA section 401.

15 The Monitoring Program and Reporting Requirements are modified in compliance with a judgment in the case of San Francisco BayKeeper, et al. v. State Water Resources Control Board. The modifications include sampling and analysis requirements for direct discharges of sediment to waters impaired due to sediment and for pollutants that are not visually detectable in runoff that may cause or contribute to an exceedance of water quality objectives.

16 Storm water discharges associated with industrial activity that are owned or operated by municipalities serving populations less than 100,000 people are no longer exempt from the need to apply for or obtain a storm water discharge permit. A temporary exemption, which was later extended by USEPA, was provided under section 1068(c) of the Intermodal Surface Transportation and Efficiency Act (ISTEA) of 1991. Federal regulation 40 CFR § 122.26(e)(1)(ii) requires the above municipalities to submit permit application by March 10, 2003.

17 This permit may be reopened and modified to include different monitoring requirements for small construction activity than for construction activity over five (5) acres.

IT IS HEREBY ORDERED that all dischargers who file an NOI indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. Authorization pursuant to this General Permit does not constitute an exemption to applicable discharge prohibitions prescribed in Basin Plans, as implemented by the nine RWQCBs.

2. Discharges of material other than storm water which are not otherwise authorized by an NPDES permit to a separate storm sewer system (MS4) or waters of the nation are prohibited, except as allowed in Special Provisions for Construction Activity, C.3.

3. Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.

4. Storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

B. RECEIVING WATER LIMITATIONS:

1. Storm water discharges and authorized nonstorm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. The SWPPP developed for the construction activity covered by this General Permit shall be designed and implemented such that storm water discharges and authorized nonstorm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan and/or the applicable RWQCB's Basin Plan.

3. Should it be determined by the discharger, SWRCB, or RWQCB that storm water discharges and/or authorized nonstorm water discharges are causing or contributing to an exceedance of an applicable water quality standard, the discharger shall:

    a. Implement corrective measures immediately following discovery that water quality standards were exceeded, followed by notification to the RWQCB by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. This notification shall be followed by a report within 14-calender days to the appropriate RWQCB, unless otherwise directed by the RWQCB, describing (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to

prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; and (4) any maintenance or repair of BMPs. This report shall include an implementation schedule for corrective actions and shall describe the actions taken to reduce the pollutants causing or contributing to the exceedance.

b. The discharger shall revise its SWPPP and monitoring program immediately after the report to the RWQCB to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.

c. Nothing in this section shall prevent the appropriate RWQCB from enforcing any provisions of this General Permit while the discharger prepares and implements the above report.

C. SPECIAL PROVISIONS FOR CONSTRUCTION ACTIVITY:

1. All dischargers shall file an NOI and pay the appropriate fee for construction activities conducted at each site as required by Attachment 2: Notice of Intent--General Instructions.

2. All dischargers shall develop and implement a SWPPP in accordance with Section A: Storm Water Pollution Prevention Plan. The discharger shall implement controls to reduce pollutants in storm water discharges from their construction sites to the BAT/BCT performance standard.

3. Discharges of non-storm water are authorized only where they do not cause or contribute to a violation of any water quality standard and are controlled through implementation of appropriate BMPs for elimination or reduction of pollutants. Implementation of appropriate BMPs is a condition for authorization of non-storm water discharges. Non-storm water discharges and the BMPs appropriate for their control must be described in the SWPPP. Wherever feasible, alternatives which do not result in discharge of nonstorm water shall be implemented in accordance with Section A.9. of the SWPPP requirements.

4. All dischargers shall develop and implement a monitoring program and reporting plan in accordance with Section B: Monitoring Program and Reporting Requirements.

5. All dischargers shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the RWQCBs to local agencies.

6. All dischargers shall comply with the standard provisions and reporting requirements contained in Section C: Standard Provisions.

7. The discharger may terminate coverage for a portion of the project under this General Permit when ownership of a portion of this project has been transferred or when a phase within this multi-phase project has been completed. When ownership has transferred, the discharger must submit to its RWQCB a Change of Information Form (COI) Attachment 4 with revised site map and the name, address and telephone number of the new owner(s). Upon transfer of title, the discharger should notify the new owner(s) of the need to obtain coverage under this General Permit. The new owner must comply with provisions of Sections A. 2. (c) and
B. 2. (b) of this General Permit. To terminate coverage for a portion of the project when a phase has been completed, the discharger must submit to its RWQCB a COI with a revised map that identifies the newly delineated site.

8. The discharger may terminate coverage under this General Permit for a complete project by submitting to its RWQCB a Notice of Termination Form (NOT), and the post-construction BMPs plan according to Section A.10 of this General Permit. Note that a construction project is considered complete only when all portions of the site have been transferred to a new owner; or the following conditions have been met:

    a. There is no potential for construction related storm water pollution,

    b. All elements of the SWPPP have been completed,

    c. Construction materials and waste have been disposed of properly,

    d. The site is in compliance with all local storm water management requirements, and

    e. A post-construction storm water management plan is in place as described in the site's SWPPP.

9. This General Permit expires five years from the date of adoption.

D. REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) AUTHORITIES:

1. RWQCBs shall:

   a. Implement the provisions of this General Permit. Implementation of this General Permit may include, but is not limited to requesting the submittal of SWPPPS, reviewing SWPPPs, reviewing monitoring reports, conducting compliance inspections, and taking enforcement actions.

   b. Issue permits as they deem appropriate to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a RWQCB, the affected dischargers shall no longer be regulated by this General Permit.

2. RWQCBs may require, on a case-by-case basis, the inclusion of an analysis of potential downstream impacts on receiving waterways due to the permitted construction.

3. RWQCBs may provide information to dischargers on the development and implementation of SWPPPs and monitoring programs and may require revisions to SWPPPs and monitoring programs.

4. RWQCBs may require dischargers to retain records for more than three years.

5. RWQCBs may require additional monitoring and reporting program requirements including sampling and analysis of discharges to water bodies listed in Attachment 3 to this permit. Additional requirements imposed by the RWQCB should be consistent with the overall monitoring effort in the receiving waters.

6. RWQCBs may issue individual NPDES permits for those construction activities found to be ineligible for coverage under this permit.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 19, 1999.

AYE:	James M. Stubchaer Mary Jane Forster John W. Brown Arthur G. Baggett, Jr.
NO:	None
ABSENT:	None
ABSTAIN:	None

/s/
Maureen Marché
Administrative Assistant to the Board

SECTION A: STORM WATER POLLUTION PREVENTION PLAN

1. Objectives

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed and implemented to address the specific circumstances for each construction site covered by this General Permit. The SWPPP shall be certified in accordance with the signatory requirements of section C, Standard Provision for Construction Activities (9). The SWPPP shall be developed and amended or revised, when necessary, to meet the following objectives:

a. Identify all pollutant sources including sources of sediment that may affect the quality of storm water discharges associated with construction activity (storm water discharges) from the construction site, and

b. Identify non-storm water discharges, and

c. Identify, construct, implement in accordance with a time schedule, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized nonstorm water discharges from the construction site during construction, and

d. Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs).

e. Identify a sampling and analysis strategy and sampling schedule for discharges from construction activity which discharge directly into water bodies listed on Attachment 3. (Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation).

f. For all construction activity, identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

2. Implementation Schedule

a. For construction activity commencing on or after adoption of this General Permit, the SWPPP shall be developed prior to the start of soil-disturbing activity in accordance with this Section and shall be implemented concurrently with commencement of soil-disturbing activities.

b. Existing permittees engaging in construction activities covered under the terms of the previous General Construction Permit SWPPP (WQ Order No.92-08-DWQ) shall continue to implement their existing SWPPP and shall implement any

necessary revisions to their SWPPP in accordance with this Section of the General Permit in a timely manner, but in no case more than 90-calender days from the date of adoption of this General Permit.

c. For ongoing construction activity involving a change of ownership of property, the new owner shall review the existing SWPPP and amend if necessary, or develop a new SWPPP within 45-calender days.

d. Existing permittees shall revise their SWPPP in accordance with the sampling and analysis modifications prior to August 1, 2001. For ongoing construction activity involving a change of ownership the new owner shall review the existing SWPPP and amend the sampling and analysis strategy, if required, within 45 days. For construction activity commencing after the date of adoption, the SWPPP shall be developed in accordance with the modification language adopted.

3. Availability

The SWPPP shall remain on the construction site while the site is under construction during working hours, commencing with the initial construction activity and ending with termination of coverage under the General Permit.

4. Required Changes

a. The discharger shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, ground waters, or a municipal separate storm sewer system (MS4). The SWPPP shall also be amended if the discharger violates any condition of this General Permit or has not achieved the general objective of reducing or eliminating pollutants in storm water discharges. If the RWQCB determines that the discharger is in violation of this General Permit, the SWPPP shall be amended and implemented in a timely manner, but in no case more than 14-calendar days after notification by the RWQCB. All amendments should be dated and directly attached to the SWPPP.

b. The RWQCB or local agency with the concurrence of the RWQCB may require the discharger to amend the SWPPP.

5. Source Identification

The SWPPP shall include: (a) project information and (b) pollutant source identification combined with an itemization of those BMPs specifically chosen to control the pollutants listed.

a. Project Information

(1) The SWPPP shall include a vicinity map locating the project site with respect to easily identifiable major roadways, geographic features, or landmarks. At a minimum, the map must show the construction site perimeter, the geographic features surrounding the site, and the general topography.

(2) The SWPPP shall include a site map(s) which shows the construction project in detail, including the existing and planned paved areas and buildings.

(a) At a minimum, the map must show the construction site perimeter; existing and proposed buildings, lots, roadways, storm water collection and discharge points; general topography both before and after construction; and the anticipated discharge location(s) where the storm water from the construction site discharges to a municipal storm sewer system or other water body.

(b) The drainage patterns across the project area must clearly be shown on the map, and the map must extend as far outside the site perimeter as necessary to illustrate the relevant drainage areas. Where relevant drainage areas are too large to depict on the map, map notes or inserts illustrating the upstream drainage areas are sufficient.

(c) Temporary on-site drainages to carry concentrated flow shall be selected to comply with local ordinances, to control erosion, to return flows to their natural drainage courses, and to prevent damage to downstream properties.

3. Information presented in the SWPPP may be represented either by narrative or by graphics. Where possible, narrative descriptions should be plan notes. Narrative descriptions which do not lend themselves to plan notes can be contained in a separate document which must be referenced on the plan.

b. Pollutant Source and BMP Identification

The SWPPP shall include a description of potential sources which are likely to add pollutants to storm water discharges or which may result in nonstorm water discharges from the construction site. Discharges originating from off-site which flow across or through areas disturbed by construction that may contain pollutants should be reported to the RWQCB.

The SWPPP shall:

(1) Show drainage patterns and slopes anticipated after major grading activities are completed. Runoff from off-site areas should be prevented from flowing through areas that have been disturbed by construction unless appropriate conveyance systems are in place. The amount of anticipated storm water run-on must be considered to determine the appropriateness of the BMPs chosen. Show all calculations for anticipated storm water run-on, and describe all BMPs implemented to divert off-site drainage described in section A. 5 a. (2) (c) around or through the construction project.

(2) Show the drainage patterns into each on-site storm water inlet point or receiving water. Show or describe the BMPs that will protect operational storm water inlets or receiving waters from contaminated discharges other than sediment discharges, such as, but not limited to: storm water with elevated pH levels from contact with soil amendments such as lime or gypsum; slurry from sawcutting of concrete or asphalt ;washing of exposed aggregate concrete; concrete rinse water; building washing operations; equipment washing operations; minor street washing associated with street delineation; and/or sealing and paving activities occurring during rains.

(3) Show existing site features that, as a result of known past usage, may contribute pollutants to storm water, (e.g., toxic materials that are known to have been treated, stored, disposed, spilled, or leaked onto the construction site). Show or describe the BMPs implemented to minimize the exposure of storm water to contaminated soil or toxic materials.

(4) Show areas designated for the (a) storage of soil or waste, (b) vehicle storage and service areas, (c) construction material loading, unloading, and access areas, (d) equipment storage, cleaning, and maintenance areas.

(5) Describe the BMPs for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste. Describe the BMPs designed to minimize or eliminate the exposure of storm water to construction materials, equipment, vehicles, waste storage areas, or service areas. The BMPs described shall be in compliance with Federal, State, and local laws, regulations, and ordinances.

(6) Describe all post-construction BMPs for the project, and show the location of each BMP on the map. (Post-construction BMPs consist of permanent features designed to minimize pollutant discharges, including sediment, from the site after construction has been completed.) Also, describe the agency or parties to be the responsible party for long-term maintenance of these BMPs.

(7) Show the locations of direct discharge from the construction site into a Section 303(d) list water body. Show the designated sampling locations in the receiving waters, which represent the prevailing conditions of the water bodies upstream of the construction site discharge and immediately downstream from the last point of discharge.

(8) Show the locations designated for sampling the discharge from areas identified in Section A. 5. b. (2), (3), and (4) and Section A. 5. c. (1) and (2). Samples shall be taken should visual monitoring indicate that there has been a breach, malfunction, leakage, or spill from a BMP which could result in the discharge in storm water of pollutants that would not be visually detectable, or if storm water comes into contact with soil amendments or other exposed materials or contamination and is allowed to be discharged. Describe the sampling procedure, location, and rationale for obtaining the uncontaminated sample of storm water.

c. Additional Information

(1) The SWPPP shall include a narrative description of pollutant sources and BMPs that cannot be adequately communicated or identified on the site map. In addition, a narrative description of preconstruction control practices (if any) to reduce sediment and other pollutants in storm water discharges shall be included.

(2) The SWPPP shall include an inventory of all materials used and activities performed during construction that have the potential to contribute to the discharge of pollutants other than sediment in storm water. Describe the BMPs selected and the basis for their selection to eliminate or reduce these pollutants in the storm water discharges.

(3) The SWPPP shall include the following information regarding the construction site surface area: the size (in acres or square feet), the runoff coefficient before and after construction, and the percentage that is impervious (e.g., paved, roofed, etc.) before and after construction.

(4) The SWPPP shall include a copy of the NOI, and the Waste Discharge Identification (WDID) number. Should a WDID number not be received from the SWRCB at the time construction commences, the discharger shall include proof of mailing of the NOI, e.g., certified mail receipt, copy of check, express mail receipt, etc.

(5) The SWPPP shall include a construction activity schedule which describes all major activities such as mass grading, paving, lot or parcel

improvements at the site and the proposed time frame to conduct those activities.

(6) The SWPPP shall list the name and telephone number of the qualified person(s) who have been assigned responsibility for prestorm, poststorm, and storm event BMP inspections; and the qualified person(s) assigned responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

6. Erosion Control

Erosion control, also referred to as "soil stabilization" is the most effective way to retain soil and sediment on the construction site. The most efficient way to address erosion control is to preserve existing vegetation where feasible, to limit disturbance, and to stabilize and revegetate disturbed areas as soon as possible after grading or construction. Particular attention must be paid to large mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great. Mass graded construction sites may be exposed for several years while the project is being built out. Thus, there is potential for significant sediment discharge from the site to surface waters.

At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season. These disturbed areas include rough graded roadways, slopes, and building pads. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single-most important factor in reducing erosion at construction sites. The discharger shall consider measures such as: covering with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, permanent seeding, and a variety of other measures.

The SWPPP shall include a description of the erosion control practices, including a time schedule, to be implemented during construction to minimize erosion on disturbed areas of a construction site. The discharger must consider the full range of erosion control BMPs. The discharger must consider any additional site-specific and seasonal conditions when selecting and implementing appropriate BMPs. The above listed erosion control measures are examples of what should be considered and are not exclusive of new or innovative approaches currently available or being developed.

a. The SWPPP shall include:

(1) An outline of the areas of vegetative soil cover or native vegetation onsite which will remain undisturbed during the construction project.

(2) An outline of all areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch, or blankets, etc.

(3) An outline of the areas of soil disturbance, cut, or fill which will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction.

(4) A proposed schedule for the implementation of erosion control measures.

b. The SWPPP shall include a description of the BMPs and control practices to be used for both temporary and permanent erosion control measures.

c. The SWPPP shall include a description of the BMPs to reduce wind erosion at all times, with particular attention paid to stock-piled materials.

7. Stabilization

(1) All disturbed areas of the construction site must be stabilized. Final stabilization for the purposes of submitting a NOT is satisfied when:

-All soil disturbing activities are completed AND EITHER OF THE TWO FOLLOWING CRITERIA ARE MET:

-A uniform vegetative cover with 70 percent coverage has been established OR:

-equivalent stabilization measures have been employed. These measures include the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

(2) Where background native vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: If the native vegetation covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage.

8. <u>Sediment Control</u>

The SWPPP shall include a description or illustration of BMPs which will be implemented to prevent a net increase of sediment load in storm water discharge relative to preconstruction levels. Sediment control BMPs are required at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season. Sediment control practices may include filtration devices and barriers (such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters) and/or settling devices (such as sediment traps or basins). Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly. A proposed schedule for deployment of sediment control BMPs shall be included in the SWPPP. These are the most basic measures to prevent sediment from leaving the project site and moving into receiving waters. Limited exemptions may be authorized by the RWQCB when work on active areas precludes the use of sediment control BMPs temporarily. Under these conditions, the SWPPP must describe a plan to establish perimeter controls prior to the onset of rain.

During the nonrainy season, the discharger is responsible for ensuring that adequate sediment control materials are available to control sediment discharges at the downgrade perimeter and operational inlets in the event of a predicted storm. The discharger shall consider a full range of sediment controls, in addition to the controls listed above, such as straw bale dikes, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, sandbag dikes, fiber rolls, or other controls. At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season.

If the discharger chooses to rely on sediment basins for treatment purposes, sediment basins shall, at a minimum, be designed and maintained as follows:

Option 1: Pursuant to local ordinance for sediment basin design and maintenance, provided that the design efficiency is as protective or more protective of water quality than Option 3.

OR

Option 2: Sediment basin(s), as measured from the bottom of the basin to the principal outlet, shall have at least a capacity equivalent to 3,600 cubic feet of storage per acre draining into the sediment basin. The length of the basin shall be more than twice the width of the basin. The length is determined by measuring the distance between the inlet and the outlet; and the depth must not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency.

OR

Option 3: Sediment basin(s) shall be designed using the standard equation:

$$As=1.2Q/Vs$$

Where: As is the minimum surface area for trapping soil particles of a certain size; Vs is the settling velocity of the design particle size chosen; and Q=C x I x A where Q is the discharge rate measured in cubic feet per second; C is the runoff coefficient; I is the precipitation intensity for the 10-year, 6-hour rain event and A is the area draining into the sediment basin in acres. The design particle size shall be the smallest soil grain size determined by wet sieve analysis, or the fine silt sized (0.01mm) particle, and the Vs used shall be 100 percent of the calculated settling velocity.

The length is determined by measuring the distance between the inlet and the outlet; the length shall be more than twice the dimension as the width; the depth shall not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency (two feet of storage, two feet of capacity). The basin(s) shall be located on the site where it can be maintained on a year-round basis and shall be maintained on a schedule to retain the two feet of capacity;

OR

Option 4: The use of an equivalent surface area design or equation, provided that the design efficiency is as protective or more protective of water quality than Option 3.

A sediment basin shall have a means for dewatering within 7-calendar days following a storm event. Sediment basins may be fenced if safety (worker or public) is a concern.

The outflow from a sediment basin that discharges into a natural drainage shall be provided with outlet protection to prevent erosion and scour of the embankment and channel.

The discharger must consider any additional site-specific and seasonal conditions when selecting and designing sediment control BMPs. The above listed sediment control measures are examples of what should be considered and are not exclusive of new or innovative approaches currently available or being developed.

The SWPPP shall include a description of the BMPs to reduce the tracking of sediment onto public or private roads at all times. These public and private roads shall be inspected and cleaned as necessary. Road cleaning BMPs shall be discussed in the SWPPP and will not rely on the washing of accumulated sediment or silt into the storm drain system.

9. <u>Non-Storm Water Management</u>

Describe all non-storm water discharges to receiving waters that are proposed for the construction project. Non-storm water discharges should be eliminated or reduced to the extent feasible. Include the locations of such discharges and descriptions of all BMPs designed for the control of pollutants in such discharges. Onetime discharges shall be monitored during the time that such discharges are occurring. A qualified person should be assigned the responsibility for ensuring that no materials other than storm water are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems (consistent with BAT/BCT), and the name and contact number of that person should be included in the SWPPP document.

Discharging sediment-laden water which will cause or contribute to an exceedance of the applicable RWQCB's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain without filtration or equivalent treatment is prohibited.

10. Post-Construction Storm Water Management

The SWPPP shall include descriptions of the BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (Post-Construction BMPs). Post-Construction BMPs include the minimization of land disturbance, the minimization of impervious surfaces, treatment of storm water runoff using infiltration, detention/retention, biofilter BMPs, use of efficient irrigation systems, ensuring that interior drains are not connected to a storm sewer system, and appropriately designed and constructed energy dissipation devices. These must be consistent with all local post-construction storm water management requirements, policies, and guidelines. The discharger must consider site-specific and seasonal conditions when designing the control practices. Operation and maintenance of control practices after construction is completed shall be addressed, including short-and long-term funding sources and the responsible party.

11. Maintenance, Inspection, and Repair

The SWPPP shall include a discussion of the program to inspect and maintain all BMPs as identified in the site plan or other narrative documents throughout the entire duration of the project. A qualified person will be assigned the responsibility to conduct inspections. The name and telephone number of that person shall be listed in the SWPPP document. Inspections will be performed before and after storm events and once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or design changes as soon as feasible depending upon field conditions. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible after the conclusion of each storm depending upon worker safety.

For each inspection required above, the discharger shall complete an inspection checklist. At a minimum, an inspection checklist shall include:

a. Inspection date.

b. Weather information: best estimate of beginning of storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall (inches).

c. A description of any inadequate BMPs.

d. If it is possible to safely access during inclement weather, list observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list result of visual inspection at relevant outfall, discharge point, or downstream location and projected required maintenance activities.

e. Corrective actions required, including any changes to SWPPP necessary and implementation dates.

f. Inspectors name, title, and signature.

The dischargers shall prepare their inspection checklists using the inspection checklist form provided by the SWRCB or RWQCB or on forms that contain the equivalent information.

12. Training

Individuals responsible for SWPPP preparation, implementation, and permit compliance shall be appropriately trained, and the SWPPP shall document all training. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP shall also document their training. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, or other locally recognized agencies or professional organizations.

13. List of Contractors/Subcontractors

The SWPPP shall include a list of names of all contractors, (or subcontractors) and individuals responsible for implementation of the SWPPP. This list should include telephone numbers and addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers should also be included.

14. Other Plans

This SWPPP may incorporate by reference the appropriate elements of other plans required by local, State, or Federal agencies. A copy of any requirements incorporated by reference shall be kept at the construction site.

15. Public Access

The SWPPP shall be provided, upon request, to the RWQCB. The SWPPP is considered a report that shall be available to the public by the RWQCB under section 308(b) of the Clean Water Act.

16. Preparer Certification

The SWPPP and each amendment shall be signed by the landowner (discharger) or his representative and include the date of initial preparation and the date of each amendment.

SECTION B: MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. Required Changes

The RWQCB may require the discharger to conduct additional site inspections, to submit reports and certifications, or perform sampling and analysis.

2. Implementation

a. The requirements of this Section shall be implemented at the time of commencement of construction activity (see also Section A. 2. Implementation Schedule). The discharger is responsible for implementing these requirements until construction activity is complete and the site is stabilized.

b. For ongoing construction activity involving a change in ownership of property covered by this General Permit, the new owner must complete a NOI and implement the requirements of this Section concurrent with the change of ownership. For changes of information, the owner must follow instructions in C. 7. Special Provisions for Construction Activity of the General Permit.

3. Site Inspections

Qualified personnel shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. The name(s) and contact number(s) of the assigned inspection personnel shall be listed in the SWPPP. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that the BMPs have functioned adequately. During extended storm events, inspections shall be required each 24-hour period. Best Management Practices (BMPs) shall be evaluated for adequacy and proper implementation and whether additional BMPs are required in accordance with the terms of the General Permit (see language in Section A. 11. Maintenance, Inspection, and Repair). Implementation of nonstorm water discharge BMPs shall be verified and their

effectiveness evaluated. One time discharges of non-storm water shall be inspected when such discharges occur.

4. Compliance Certification

Each discharger or qualified assigned personnel listed by name and contact number in the SWPPP must certify annually that construction activities are in compliance with the requirements of this General Permit and the SWPPP. This Certification shall be based upon the site inspections required in Item 3 of this Section. The certification must be completed by July 1 of each year.

5. Noncompliance Reporting

Dischargers who cannot certify compliance, in accordance with Item 4 of this Section and/or who have had other instances of noncompliance excluding exceedances of water quality standards as defined in section B. 3. Receiving Water Limitations Language, shall notify the appropriate RWQCB within 30 days. Corrective measures should be implemented immediately following discovery that water quality standards were exceeded. The notifications shall identify the noncompliance event, including an initial assessment of any impact caused by the event; describe the actions necessary to achieve compliance; and include a time schedule subject to the modifications by the RWQCB indicating when compliance will be achieved. Noncompliance notifications must be submitted within 30-calendar days of identification of noncompliance.

6. Monitoring Records

Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated. With the exception of noncompliance reporting, dischargers are not required to submit these records.

7. Monitoring Program for Sedimentation/Siltation

Dischargers of storm water associated with construction activity that directly enters a water body listed in Attachment 3 shall conduct a sampling and analysis program for the pollutants (sedimentation/siltation or turbidity) causing the impairment. The discharger shall monitor for the applicable parameter. If the water body is listed for sedimentation or siltation, samples should be analyzed for Settleable Solids (ml/l) and Total Suspended Solids (mg/l). Alternatively or in addition, samples may be analyzed for suspended sediment concentration according to ASTM D3977-97. If the water body is listed for turbidity, samples should be analyzed for turbidity (NTU). Discharges that flow through tributaries that are not listed in Attachment 3 or that flow into Municipal Separate Storm Sewer Systems (MS4) are not subject to these sampling and analysis requirements. The sampling and analysis parameters and procedures must be designed to determine whether the BMPs installed and maintained prevent discharges of sediment from contributing to impairment in receiving waters.

Samples shall be collected during the first two hours of discharge from rain events which result in a direct discharge to any water body listed in Attachment 3. Samples shall be collected during daylight hours (sunrise to sunset). Dischargers need not collect more than four (4) samples per month. All samples shall be taken in the receiving waters and shall be representative of the prevailing conditions of the water bodies. Samples shall be collected from safely accessible locations upstream of the construction site discharge and immediately downstream from the last point of discharge.

For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification. All field and/or laboratory analytical data shall be kept in the SWPPP document, which is to remain at the construction site at all times until a Notice of Termination has been submitted and approved.

8. Monitoring Program for Pollutants Not Visually Detectable in Storm Water

A sampling and analysis program shall be developed and conducted for pollutants which are not visually detectable in storm water discharges, which are or should be known to occur on the construction site, and which could cause or contribute to an exceedance of water quality objectives in the receiving water. Pollutants that should be considered for inclusion in this sampling and analysis program are those identified in Sections A.5.b. and A.5.c.

Construction materials and compounds that are not stored in water-tight containers under a water-tight roof or inside a building are examples of materials for which the discharger may have to implement sampling and analysis procedures. The goal of the sampling and analysis is to determine whether the BMPs employed and maintained on site are effective in preventing the potential pollutants from coming in contact with storm water and causing or contributing to an exceedance of water quality objectives in the receiving waters. Examples of construction sites that may require sampling and analysis include: sites that are known to have contaminants spilled or spread on the ground; sites where construction practices include the application of soil amendments, such as gypsum, which can increase the pH of the runoff; or sites having uncovered stockpiles of material exposed to storm water. Visual observations before, during, and after storm events may trigger the requirement to collect samples. Any breach, malfunction, leakage, or spill observed which could result in the discharge of pollutants to surface waters that *would* not be visually detectable in storm water shall trigger the collection of a sample of discharge. Samples shall be collected at all discharge locations which drain the areas identified by the visual observations and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples. A sufficiently large sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site

(uncontaminated sample) shall be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

The uncontaminated sample shall be compared to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and TDS.

For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification. All field and/or analytical data shall be kept in the SWPPP document, which is to remain at the construction site at all times until a *Notice of* Termination has been submitted and approved.

SECTION C: STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITY

1. Duty to Comply

The discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of Storm Water Pollution Prevention Plans (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The discharger shall furnish the RWQCB, State Water Resources Control Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records required to be kept by this General Permit.

8. Inspection and Entry

The discharger shall allow the RWQCB, SWRCB, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. Signatory Requirements

a. All Notice of Intents (NOIs), Notice of Terminations (NOTs), SWPPPs, certifications, and reports prepared in accordance with this Order submitted to the SWRCB shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).

b. All SWPPPs, reports, certifications, or other information required by the General Permit and/or requested by the RWQCB, SWRCB, USEPA, or the local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative if:

(1) The authorization is made in writing by a person described above and retained as part of the SWPPP; or

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the construction activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the construction activity, a new authorization must be attached to the SWPPP prior to submittal of any reports, information, or certifications to be signed by the authorized representative.

10. Certification

Any person signing documents under Section C, Provision 9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The discharger will give advance notice to the RWQCB and local storm water management agency of any planned changes in the construction activity which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties which in some cases are greater than those under the CWA.

17. Availability

A copy of this General Permit shall be maintained at the construction site during construction activity and be available to operating personnel.

18. Transfers

This General Permit is not transferable. A new owner of an ongoing construction activity must submit a NOI in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An owner who sells property covered

by this General Permit shall inform the new owner of the duty to file a NOI and shall provide the new owner with a copy of this General Permit.

19. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

Attachment 1

SWRCB AND RWQCB CONTACT LIST

Division of Water Quality
P.O. Box 1977
Sacramento, CA 95812-1977
(916) 341-5537 FAX: (916) 341-5543
Web Page: http://www.waterboards.ca.gov/water_issues/programs/stormwater/
Email: stormwater@waterboards.ca.gov

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

NORTH COAST REGION (1)
5550 Skylane Blvd, Ste. A
Santa Rose, CA 95403
(707) 576-2220 FAX: (707)523-0135
http://www.waterboards.ca.gov/rwqcb1

SAN FRANCISCO BAY REGION (2)
1515 Clay Street, Ste. 1400
Oakland, CA 94612
(510) 622-2300 FAX: (510) 622-2640
http://www.waterboards.ca.gov/rwqcb2

CENTRAL COAST REGION (3)
895 Aerovista Place, Ste 101
San Luis Obispo, CA 93401
(805) 549-3147 FAX: (805) 543-0397
http://www.waterboards.ca.gov/rwqcb3

LOS ANGELES REGION (4)
320 W. 4th Street, Ste. 200
Los Angeles, CA 90013
(213) 576-6600 FAX: (213) 576-6640
http://www.waterboards.ca.gov/rwqcb4

CENTRAL VALLEY REGION (5S)
11020 Sun Center Dr., #200
Rancho Cordova, CA 95670-6114
(916) 464-3291 FAX: (916) 464-4645
http:www.waterboards.ca.gov/rwqcb5

FRESNO BRANCH OFFICE (5F)
1685 E St.
Fresno, CA 93706
(559) 445-5116 FAX: (559) 445-5910
http://www.waterboards.ca.gov/rwqcb5

REDDING BRANCH OFFICE (5R)
415 Knollcrest Drive, Ste. 100
Redding, CA 96002
(530) 224-4845 FAX: (530) 224-4857
http://www.waterboards.ca.gov/rwqcb5

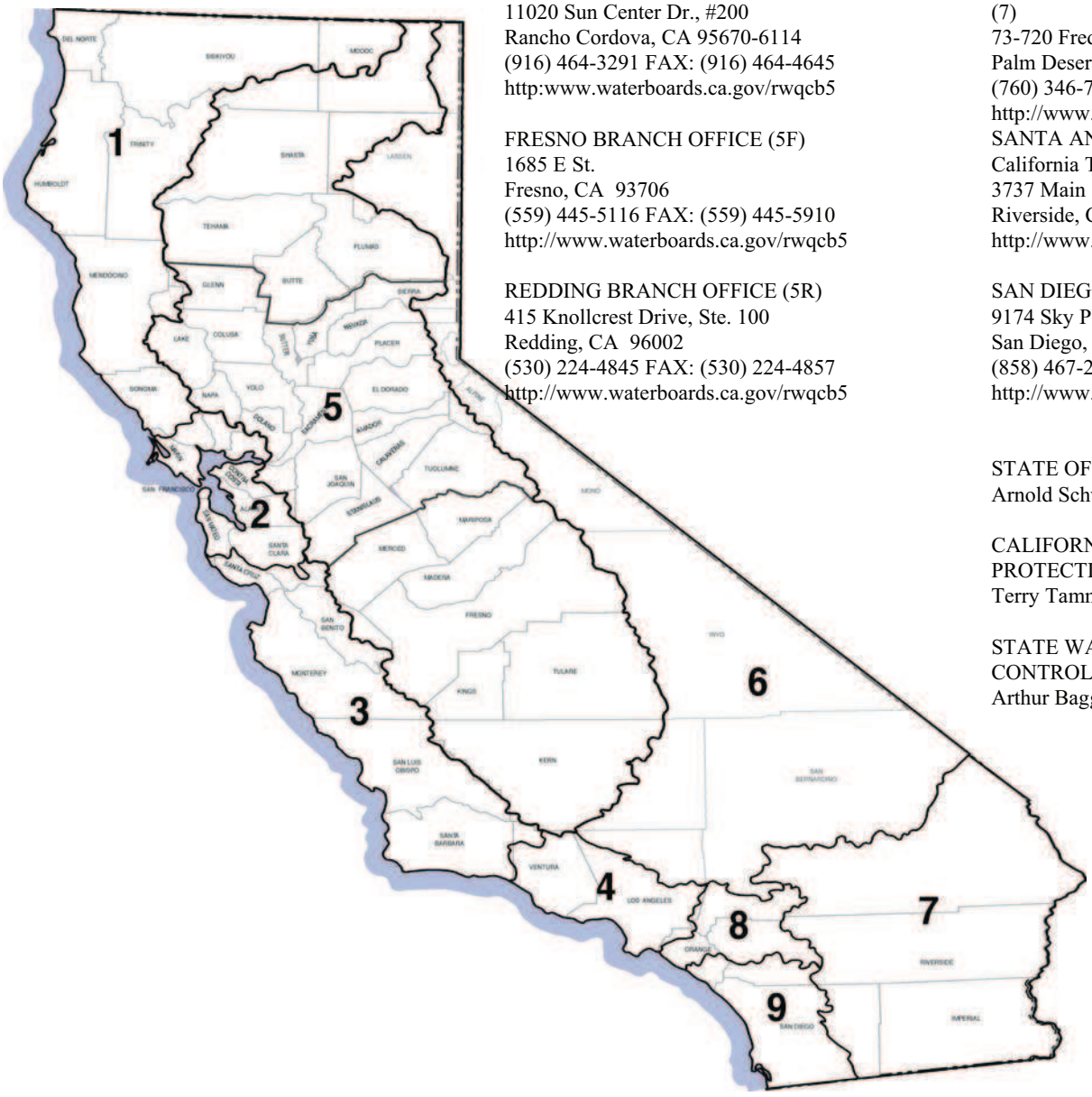
LAHONTAN REGION (6 SLT)
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(530) 542-5400 FAX: (530) 544-2271
http://www.waterboards.ca.gov/rwqcb6

VICTORVILLE OFFICE (6V)
15428 Civic Drive, Ste. 100
Victorville, CA 92392-2383
(760) 241-6583 FAX: (760) 241-7308
http://www.waterboards.ca.gov/rwqcb6

COLORADO RIVER BASIN REGION (7)
73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491 FAX: (760) 341-6820
http://www.waterboards.ca.gov/rwqcb7

SANTA ANA REGION (8)
California Tower
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
http://www.waterboards.ca.gov/rwqcb8

SAN DIEGO REGION (9)
9174 Sky Park Court, Ste. 100
San Diego, CA 92123-4340
(858) 467-2952 FAX: (858) 571-6972
http://www.waterboards.ca.gov/rwqcb9



STATE OF CALIFORNIA
Arnold Schwarzenegger, Governor

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Terry Tamminen, Secretary

STATE WATER RESOURCES CONTROL BOARD
Arthur Baggett Jr., Chairman

NOTICE OF INTENT (NOI) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Activities Storm Water Permit (General Permit). Construction activity which is a part of a larger common area of development or sale must also be permitted. (For example, if 4 acres of a 20-acre subdivision is disturbed by construction activities, and the remaining 16 acres is to be developed at a future date, the property owner must obtain a General Storm Water Permit for the 4-acre project). Construction activity includes, but is not limited to: clearing, grading, demolition, excavation, construction of new structures, and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. This includes construction access roads, staging areas, storage areas, stockpiles, and any off-site areas which receive run-off from the construction project such as discharge points into a receiving water. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

The owner of the land where the construction activity is occurring is responsible for obtaining a permit. Owners may obtain coverage under the General Permit by filing a NOI in accordance with the following instructions. Coverage for construction activity conducted on easements (e.g., pipeline construction) or on nearby properties by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, shall be obtained by the entity responsible for the construction activity. Linear construction projects which will have construction activity occurring in one or more than one Region should contact the State Water Resources Control Board at the number listed below prior to submitting an NOI application for specific information related to the use of the NOI form.

Construction Activity Not Covered By This General Permit

Storm water discharges in the Lake Tahoe Hydrologic Unit will be regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region, and will not be covered under the State Water Resources Control Board's (SWRCB) General Permit. Storm water discharges on Indian Lands will be regulated by the U.S. Environmental Protection Agency.

Where to Apply

The NOI form, vicinity map, and appropriate fee must be mailed to the SWRCB at the following address:

State Water Resources Control Board
Division of Water Quality
Attn: Storm Water Permit Unit
P.O. Box 1977
Sacramento, CA 95812-1977

When to Apply

Property owners proposing to conduct construction activities subject to this General Permit must file a Notice of Intent prior to the commencement of construction activity.

Fees

The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI. Checks should be made payable to: SWRCB.

Completing the Notice of Intent (NOI)

The submittal to obtain coverage under the General Permit must include a completed NOI Form (Notice of Intent, attached), a vicinity map, and the appropriate annual fee. The NOI must be completely and accurately filled out; the vicinity map and annual fee must be included with the NOI or the submittal is considered incomplete and will be rejected. A construction site is considered to be covered by the General Permit upon filing a complete NOI submittal, and implementation of a defensible Storm Water Pollution Prevention Plan (SWPPP). Upon receipt of a complete NOI submittal, each discharger will be sent a receipt letter containing the waste discharger's identification (WDID) number.

Questions?

If you have any questions on completing the NOI please call the SWRCB at (916) 341-5537.

NOI-LINE-BY-LINE INSTRUCTIONS

Please type or print when completing the NOI Form and vicinity map.

SECTION I--NOI STATUS

Mark one of the two boxes at the top portion of the NOI. Check box 1 if the NOI is being completed for new construction. Check box 2 if the NOI is being submitted to report changes for a construction site already covered by the General Permit. An example of a change that warrants a resubmittal of the NOI is a change of total area of the construction site. The permit is non-transferable, a change of ownership requires a Notice of Termination (NOT) submittal and a new NOI. Complete only those portions of the NOI that apply to the changes (the NOI must always be signed). If box 2 is checked, the WDID number must be included.

SECTION II--PROPERTY OWNER

Enter the construction site owner's official or legal name and address; contact person (if other than owner), title, and telephone number.

SECTION III--DEVELOPER / CONTRACTOR INFORMATION

Enter the name of the developer's (or general contractor's) official or legal name, address, contact person, title, and telephone number. The contact person should be someone who is familiar with the construction site and is responsible for compliance and oversight of the general permit.

SECTION IV-CONSTRUCTION PROJECT INFORMATION

Enter the project name, site address, county, city, (or nearest city if construction is occurring in an unincorporated area), zip code, and telephone number (if any) of the construction site. Include an emergency contact telephone or pager number. Construction site information should include latitude and longitude designations, tract numbers, and/or mile post markers, if applicable. The site contact person should be someone who is familiar with the project, site plans, SWPPP, and monitoring program. All NOIs must be accompanied by a vicinity map.

Part A: Enter the total size in acres of all areas associated with construction activity, including all access roads.

Part B: Enter the total size in acres of the area to be disturbed by construction activity and the percentage of the area listed in Part A above that this represents.

Part C: Enter the percentage of the site that is impervious (areas where water cannot soak into the ground, such as concrete, asphalt, rooftops, etc.) before and after construction.

Part D: Include tract numbers, if available.

Part E: Enter the mile post marker number at the project site location.

Part F: Indicate whether the construction site is part of a larger common plan of development or sale. For example, if the construction activity is occurring on a two-acre site which is within a development that is one acre or greater, answer yes.

Part G: Enter the name of the development (e.g. "Quail Ridge Subdivision", "Orange Valley Estates", etc.).

Part H: Indicate when construction will begin (month, day, year). When a NOI is being submitted due to a change in ownership, the commencement date should be the date the new ownership took effect.

Part I: Indicate the percentage of the total project area to be mass graded.

Part J: Enter the estimated completion dates for the mass grading activities and for the project completion.

Part K: Indicate the type(s) of construction taking place. For example, “Transportation” should be checked for the construction of roads; “Utility” should be checked for installation of sewer, electric, or telephone systems. Include a description of the major construction activities, (e.g., 20 single family homes, a supermarket, an office building, a factory, etc.)

SECTION V--BILLING ADDRESS

To continue coverage under the General Permit, the annual fee must be paid. Indicate where the annual fee invoice should be mailed by checking one of the following boxes:

Owner: sent to the owners address as it appears in Section II.

Developer/Contractor: sent to the developer's address as it appears in Section III.

Other: sent to a different address and enter that address in the spaces provided.

SECTION VI--REGULATORY STATUS

Indicate whether or not the site is subject to local erosion/sediment control ordinances. Indicate whether the erosion/sediment control plan designed to comply with the ordinance addresses the construction of infrastructure and structures in addition to grading. Identify the name and telephone number of the local agency, if applicable.

SECTION VII--RECEIVING WATER INFORMATION

Part A: Indicate whether the storm water runoff from the construction site discharges indirectly to waters of the United States, directly to waters of the United States, or to a separate storm drain system.

Indirect discharges include discharges that may flow overland across adjacent properties or rights-of-way prior to discharging into waters of the United States.

Enter the name of the owner/operator of the relevant storm drain system, if applicable. Storm water discharges directly to waters of the United States will typically have an outfall structure directly from the facility to a river, lake, creek, stream, bay, ocean, etc. Discharges to separate storm sewer systems are those that discharge to a collection system operated by municipalities, flood control districts, utilities, or similar entities.

Part B: Enter the name of the receiving water. Regardless of point of discharge, the owner must determine the receiving water for the construction site's storm water discharge. Enter the name of the receiving water.

SECTION VIII--IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

Part A: Indicate the status of the SWPPP, date prepared, or availability for review. Also indicate if a tentative construction schedule has been included in the SWPPP (the inclusion of a construction activity schedule is a mandatory SWPPP requirement).

Part B: Provide information concerning the status of the development of a monitoring program, a component of the SWPPP which outlines an inspection and maintenance schedule for the proposed Best Management Practices (BMPs). Provide name and phone number of program preparer.

Part C: Provide the name and phone numbers of the responsible party or parties designated to insure compliance with all elements of the General Permit and SWPPP.

SECTION IX--VICINITY MAP AND FEE

Provide a “to scale” or "to approximate scale" drawing of the construction site and the immediate surrounding area. Whenever possible, limit the map to an 8.5” x 11’ or 11" x 17" sheet of paper. At a minimum, the map must show the site perimeter, the geographic features surrounding the site, and general topography, and a north arrow. The map must also include the location of the construction project in relation to named streets, roads, intersections, or landmarks. A NOI containing a map which does not clearly indicate the location of the construction project will be rejected. Do not submit blueprints unless they meet the above referenced size limits.

SECTION X--CERTIFICATIONS

This section must be completed by the owner or signatory agent of the construction site*. The certification provides assurances that the NOI and vicinity map were completed in an accurate and complete fashion and with the knowledge that penalties exist for providing false information. Certification also requires the owner to comply with the provisions in the General Permit.

* For a corporation: a responsible corporate officer (or authorized individual). For a partnership or sole proprietorship: a general partner or the proprietor, respectively. For a municipality, State, Federal, or other public agency: either a principal executive officer, ranking elected official, or duly authorized representative.

State Water Resources Control Board

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE
GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ ORDER No. 99-08-DWQ)

I. NOI STATUS (SEE INSTRUCTIONS)

MARK ONLY ONE ITEM 1. ☒ New Construction 2. ☐ Change of Information for WDID#

II. PROPERTY OWNER

Name	Contact Person		
Port of Long Beach	Richard D. Cameron		
Mailing Address	Title		
925 Harbor Plaza	Director of Environmental Planning		
City	State	Zip	Phone
Long Beach	CA	90802	(562) 590-4156

Owner Type (*check one*) 1.[ ] Private Individual 2.[ ]Business 3.[✕]Municipal 4.[ ]State 5.[ ]Federal 6.[ ]Other

III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor	Contact Person		
Port of Long Beach	Al Moro		
Mailing Address	Title		
925 Harbor Plaza	Chief Harbor Engineer		
City	State	Zip	Phone
Long Beach	CA	90802	(562) 590-4142

IV. CONSTRUCTION PROJECT INFORMATION

Site/Project Name	Site Contact Person		
Port of Long Beach Administration and Maintenance Facility	Doug Sereno		
Physical Address/Location	Latitude	Longitude	County
669 Harbor Plaza	33 °	118 °	Los Angeles
City (or nearest City)	Zip	Site Phone Number	Emergency Phone Number
Long Beach	90802		

A. Total size of construction site area: 17 Acres

B. Total area to be disturbed: 17 Acres (% of total 100)

C. Percent of site imperviousness (including rooftops):
Before Construction: 95 %
After Construction: 64 %

D. Tract Number(s): _____, _____

E. Mile Post Marker: _____

F. Is the construction site part of a larger common plan of development or sale?
☐ YES ☒ NO

G. Name of plan or development:

H. Construction commencement date: ____/____/____

I. % of site to be mass graded: _____

J. Projected construction dates:
Complete grading: ____/____/____ Complete project: ____/____/____

K. Type of Construction (Check all that apply):

1. ☐ Residential 2. ☐ Commercial 3. ☐ Industrial 4. ☐ Reconstruction 5. ☐ Transportation
6. ☐ Utility Description: _____ 7. ☒ Other (Please List): Government Facility

V. BILLING INFORMATION

SEND BILL TO:	Name	Contact Person	
☒ OWNER (as in II. above)	Port of Long Beach	Richard D. Cameron	
☐ DEVELOPER (as in III. above)	Mailing Address 925 Harbor Plaza	Phone/Fax (562) 590-4156	
☐ OTHER (enter information at right)	City Long Beach	State CA	Zip 90802

VI. REGULATORY STATUS

A. Has a local agency approved a required erosion/sediment control plan? ☐ YES ☒ NO

Does the erosion/sediment control plan address construction activities such as infrastructure and structures? ☐ YES ☒ NO

Name of local agency: _____ Phone: _____

B. Is this project or any part thereof, subject to conditions imposed under a CWA Section 404 permit of 401 Water Quality Certification? ☐ YES ☒ No

If yes, provide details: _____

VII. RECEIVING WATER INFORMATION

A. Does the storm water runoff from the construction site discharge to (Check all that apply):

1. ☐ **Indirectly to waters of the U.S.**
2. ☒ **Storm drain system - Enter owner's name:** Port of Long Beach
3. ☐ **Directly to waters of U.S. (e.g. , river, lake, creek, stream, bay, ocean, etc.)**

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): _____

VIII. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (check one)

☐ A SWPPP has been prepared for this facility and is available for review: Date Prepared: ____/____/____ Date Amended: ____/____/____

☒ A SWPPP will be prepared and ready for review by (enter date): ____/____/____

☐ A tentative schedule has been included in the SWPPP for activities such as grading, street construction, home construction, etc.

B. MONITORING PROGRAM

☐ A monitoring and maintenance schedule has been developed that includes inspection of the construction BMPs before anticipated storm events and after actual storm events and is available for review.

If checked above: A qualified person has been assigned responsibility for pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes ☐ YES ☐ NO

Name: _____ Phone: _____

C. PERMIT COMPLIANCE RESPONSIBILITY

A qualified person has been assigned responsibility to ensure full compliance with the Permit, and to implement all elements of the Storm Water Pollution Prevention Plan including:

1. Preparing an annual compliance evaluation ☐ YES ☐ NO

Name: _____ Phone: _____

2. Eliminating all unauthorized discharges ☐ YES ☐ NO

IX. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)

Have you included a vicinity map with this submittal? ☒ YES ☐ NO

Have you included payment of the annual fee with this submittal? ☒ YES ☐ NO

X. CERTIFICATIONS

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that I have read the entire General Permit, including all attachments, and agree to comply with and be bound by all of the provisions, requirements, and prohibitions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: Richard D. Cameron

Signature: _____ **Date:** _____

Title: Director of Environmental Planning

ATTACHMENT 3

303d Listed Water Bodies for Sedimentation

REGION	WATER BODY NAME	CODE	POLLUTANT
1	MATTOLE RIVER	1100	Sedimentation/Siltation
1	TRINITY RIVER, SOUTH FORK	1100	Sedimentation/Siltation
1	REDWOOD CREEK	1100	Sedimentation/Siltation
1	MAD RIVER	1100	Sedimentation/Siltation
1	ELK RIVER	1100	Sedimentation/Siltation
1	EEL RIVER, SOUTH FORK	1100	Sedimentation/Siltation
1	EEL RIVER, NORTH FORK	1100	Sedimentation/Siltation
1	TRINITY RIVER	1100	Sedimentation/Siltation
1	EEL RIVER, MIDDLE FORK	1100	Sedimentation/Siltation
1	MAD RIVER	2500	Turbidity
1	TEN MILE RIVER	1100	Sedimentation/Siltation
1	NOYO RIVER	1100	Sedimentation/Siltation
1	BIG RIVER	1100	Sedimentation/Siltation
1	ALBION RIVER	1100	Sedimentation/Siltation
1	NAVARRO RIVER	1100	Sedimentation/Siltation
1	GARCIA RIVER	1100	Sedimentation/Siltation
1	GUALALA RIVER	1100	Sedimentation/Siltation
1	RUSSIAN RIVER	1100	Sedimentation/Siltation
1	TOMKI CREEK	1100	Sedimentation/Siltation
1	VAN DUZEN RIVER	1100	Sedimentation/Siltation
1	EEL RIVER DELTA	1100	Sedimentation/Siltation
1	EEL RIVER, MIDDLE MAIN FORK	1100	Sedimentation/Siltation
1	ESTERO AMERICANO	1100	Sedimentation/Siltation
1	NAVARRO RIVER DELTA	1100	Sedimentation/Siltation
1	EEL RIVER, UPPER MAIN FORK	1100	Sedimentation/Siltation
1	FRESHWATER CREEK	1100	Sedimentation/Siltation
1	SCOTT RIVER	1100	Sedimentation/Siltation
2	TOMALES BAY	1100	Sedimentation/Siltation
2	NAPA RIVER	1100	Sedimentation/Siltation
2	SONOMA CREEK	1100	Sedimentation/Siltation
2	PETALUMA RIVER	1100	Sedimentation/Siltation
2	LAGUNITAS CREEK	1100	Sedimentation/Siltation
2	WALKER CREEK	1100	Sedimentation/Siltation
2	SAN GREGORIO CREEK	1100	Sedimentation/Siltation

2	SAN FRANCISQUITO CREEK	1100	Sedimentation/Siltation
2	PESCADERO CREEK (REG 2)	1100	Sedimentation/Siltation
2	BUTANO CREEK	1100	Sedimentation/Siltation
3	MORRO BAY	1100	Sedimentation/Siltation
3	SAN LORENZO RIVER ESTUARY	1100	Sedimentation/Siltation
3	SHINGLE MILL CREEK	1100	Sedimentation/Siltation
3	MOSS LANDING HARBOR	1100	Sedimentation/Siltation
3	WATSONVILLE SLOUGH	1100	Sedimentation/Siltation
3	SAN LORENZO RIVER	1100	Sedimentation/Siltation
3	ELKHORN SLOUGH	1100	Sedimentation/Siltation
3	SALINAS RIVER LAGOON (NORTH)	1100	Sedimentation/Siltation
3	GOLETA SLOUGH/ESTUARY	1100	Sedimentation/Siltation
3	CARPINTERIA MARSH (EL ESTERO MARSH)	1100	Sedimentation/Siltation
3	LOMPICO CREEK	1100	Sedimentation/Siltation
3	MORO COJO SLOUGH	1100	Sedimentation/Siltation
3	VALENCIA CREEK	1100	Sedimentation/Siltation
3	PAJARO RIVER	1100	Sedimentation/Siltation
3	RIDER GULCH CREEK	1100	Sedimentation/Siltation
3	LLAGAS CREEK	1100	Sedimentation/Siltation
3	SAN BENITO RIVER	1100	Sedimentation/Siltation
3	SALINAS RIVER	1100	Sedimentation/Siltation
3	CHORRO CREEK	1100	Sedimentation/Siltation
3	LOS OSOS CREEK	1100	Sedimentation/Siltation
3	SANTA YNEZ RIVER	1100	Sedimentation/Siltation
3	SAN ANTONIO CREEK (SANTA BARBARA COUNTY)	1100	Sedimentation/Siltation
3	CARBONERA CREEK	1100	Sedimentation/Siltation
3	SOQUEL LAGOON	1100	Sedimentation/Siltation
3	APTOS CREEK	1100	Sedimentation/Siltation
4	MUGU LAGOON	1100	Sedimentation/Siltation
5	HUMBUG CREEK	1100	Sedimentation/Siltation
5	PANOCHE CREEK	1100	Sedimentation/Siltation
5	FALL RIVER (PIT)	1100	Sedimentation/Siltation
6	BEAR CREEK (R6)	1100	Sedimentation/Siltation
6	MILL CREEK (3)	1100	Sedimentation/Siltation
6	HORSESHOE LAKE (2)	1100	Sedimentation/Siltation
6	BRIDGEPORT RES	1100	Sedimentation/Siltation
6	TOPAZ LAKE	1100	Sedimentation/Siltation
6	LAKE TAHOE	1100	Sedimentation/Siltation

6	PINE CREEK (2)	1100	Sedimentation/Siltation
6	TRUCKEE RIVER	1100	Sedimentation/Siltation
6	CLEARWATER CREEK	1100	Sedimentation/Siltation
6	GRAY CREEK (R6)	1100	Sedimentation/Siltation
6	WARD CREEK	1100	Sedimentation/Siltation
6	BLACKWOOD CREEK	1100	Sedimentation/Siltation
6	GOODALE CREEK	1100	Sedimentation/Siltation
6	EAST WALKER RIVER	1100	Sedimentation/Siltation
6	HEAVENLY VALLEY CREEK	1100	Sedimentation/Siltation
6	WOLF CREEK (1)	1100	Sedimentation/Siltation
6	WEST WALKER RIVER	1100	Sedimentation/Siltation
6	HOT SPRINGS CANYON CREEK	1100	Sedimentation/Siltation
6	BRONCO CREEK	1100	Sedimentation/Siltation
6	SQUAW CREEK	1100	Sedimentation/Siltation
7	IMPERIAL VALLEY DRAINS	1100	Sedimentation/Siltation
7	NEW RIVER (R7)	1100	Sedimentation/Siltation
7	ALAMO RIVER	1100	Sedimentation/Siltation
8	SAN DIEGO CREEK, REACH 1	1100	Sedimentation/Siltation
8	RATHBONE (RATHBUN) CREEK	1100	Sedimentation/Siltation
8	SAN DIEGO CREEK, REACH 2	1100	Sedimentation/Siltation
8	UPPER NEWPORT BAY ECOLOGICAL RESERVE	1100	Sedimentation/Siltation
8	BIG BEAR LAKE	1100	Sedimentation/Siltation
8	ELSINORE, LAKE	1100	Sedimentation/Siltation
9	SAN ELIJO LAGOON	1100	Sedimentation/Siltation
9	LOS PENASQUITOS LAGOON	1100	Sedimentation/Siltation
9	AGUA HEDIONDA LAGOON	1100	Sedimentation/Siltation
9	BUENA VISTA LAGOON	1100	Sedimentation/Siltation

NEW OWNER INFORMATION AND
CHANGE OF INFORMATION (COI) FORM FOR THE
GENERAL CONSTRUCTION PERMIT NO. CAS000002

Owners Name: _____ Date: _____
WDID No.: _____ Date of Last NOI Change: _____
Prepared By: _____ Signature of Preparer: _____

	Area Transferred (acres)[1] column 1	Area Remaining (acres)[2] column 2	Lot/Tract Numbers Transferred	Contact Person and Company Name of NewOwner(s)	Address(es) of the New Owner(s)	Phone # of New Owner	Is Const/Post Construction Complete? Yes/No	Date of Ownership Transfer
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

[1]Use approximate area (in acres) if no exact figure is available.
[2]Calculate running total in this column as follows:
Enter in column 2, line 1, the area from NOI minus the area in column 1.
Enter in column 2, line 2, the area in column 2, line 1, minus the area in line 2, column 1.
Enter in column 2, line 3, the area in column 2, line 2, minus the area in line 3, column 1, and so forth.

STORM WATER POLLUTION PREVENTION PLAN
for
CONSTRUCTION ACTIVITIES

_____

(Name of Project)

_____

(Street Address of Construction Site)

Long Beach, California 90802

WDID No. _____

Prepared by:

Name of Firm: _____

Street Address _____

City, State, and Zip: _____

Telephone No.: _____

_____

(Date Prepared)

CERTIFICATION OF
STORM WATER POLLUTION PREVENTION PLAN

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

This SWPPP shall be evaluated and re-certified annually until the construction project is completed and the Notice of Termination is submitted to the Los Angeles Regional Water Quality Control Board.

_____

(Signature of Authorized Representative)

_____

(Typed Name and Title of Authorized Representative)

_____

(Date of Signature)

ANNUAL RE-CERTIFICATION OF STORM WATER POLLUTION PREVENTION PLAN

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Based upon the maintenance and repair of construction-related Best Management Practices and the site inspections described in Section 4.0 of this Storm Water Pollution Prevention Plan, I certify, under penalty of law that all construction activities are in compliance with the requirements of the General Permit for Storm Water Discharges Associated with Construction Activity.

I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Owner or Owner's Representative

Name (Print)	Signature	Date

TABLE OF CONTENTS

List of Tables

Appendixes

1.0 INTRODUCTION

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared to comply with California's General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit). The Construction General Permit (General Permit No. CAS000002) was adopted by the State Water Resources Control Board (SWRCB) on August 19, 1999 as Order No. 99-08-DWQ. Subsequently, on December 2, 2002, order No. 99-08-DWQ was modified to change the threshold acreage of soil disturbance requiring permit coverage from five (5) acres to one (1) acre. A copy of the Construction General Permit is provided in Appendix A.

This SWPPP has four major objectives:

- Identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction site
- Identify non-storm water discharges
- Identify, construct, implement and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges, from the construction site during construction
- Identify, implement and assign maintenance responsibilities for post-construction BMPs, which are those measures to be installed during construction that are intended to reduce or eliminate pollutants after construction is completed

Describe for whom this SWPPP was prepared. Include in this description the name of the owner/developer, the type of project, the proposed facility name and its location.

This SWPPP was prepared for

1.1 NOTICE OF INTENT

To obtain coverage under the Construction General Permit, the site owner or operator must submit a Notice of Intent (NOI) to the SWRCB. The NOI is a two-page form that provides the SWRCB with information about the construction project, such as:

- property owner
- developer or general contractor
- construction site address and other characteristics
- applicable local ordinances, if any
- receiving water for discharges
- vicinity map

The Planning Division of the Port of Long Beach prepares and submits the NOI for construction projects within its Harbor District. The NOI must be certified as accurate and complete then submitted to the SWRCB with a fee of $700.00.

Operators of the site are those parties that have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications (e.g. land developer). Additionally, parties are also considered operators if they have day to day operational control over activities at a project which are necessary to ensure compliance with the SWPPP or other permit conditions (e.g. general contractor, erosion control contractor).

The site operator for this construction project is:

General Contractor: _____
(Firm Name)

Representative: _____
(Person's Name and/or Position)

Representative's Telephone No.: _____

1.2 PLAN AVAILABILITY

The SWPPP must be retained at the construction site from the date of project initiation to the date of termination of coverage under the Construction General Permit. The SWPPP should be available at all times to site employees, the general public, and to representatives of the Los Angeles Regional Water Quality Control Board, SWRCB, Region IX of the United States Environmental Protection Agency, or local municipality or storm water management agency.

1.3 PLAN CHANGES

The SWPPP must be amended whenever there is a change in project design, construction, or operations that may have a significant effect on the potential for discharge of pollutants or if the SWPPP proves to be ineffective in eliminating or minimizing pollutants in storm water discharges. In addition, the plan must be amended to identify any new contractor and/or subcontractor that will implement a measure of the SWPPP. SWPPP amendments or revisions are recorded in Table 1.

1.4 RETENTION OF RECORDS

The Site Operator must retain copies of the SWPPP, all required inspection reports, compliance certifications, non-compliance reports, training records and records of data used to complete the NOI for at least 3 years from the date that the site is finally stabilized. The Site Operator must retain a copy of the SWPPP and inspection reports at the construction site from the date of project initiation to the date coverage under the Construction General Permit is terminated.

1.5 COMPLIANCE CERTIFICATION

1.5.1 SWPPP Certification

This SWPPP must be certified and annually evaluated and re-certified until the construction project is complete and a Notice of Termination has been submitted to the Los Angeles Regional Water Quality Control Board. The SWPPP Certification and the SWPPP Annual Re-Certification follow the title page and precede the Table of Contents for this SWPPP.

1.5.2 Signatory Requirements for Compliance Certification

All reports, certifications or other information required by the Construction General Permit must be signed by the following:

- For a corporation: by a responsible corporate officer, which means: (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
- For a partnership of sole proprietorship: by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative.

1.6 CONTRACTOR/SUBCONTRACTOR LIST

Contractors and subcontractors who will work on the site are listed in Table 2. This list of contractors and subcontractors shall be kept current throughout the construction project. Each contractor and subcontractor shall have access to copies of applicable sections of the SWPPP or equivalent document prior to commencement of construction.

If contractors have not been selected at the time of the SWPPP preparation, then the required information will be added to the SWPPP as it becomes available.

1.7 NOTICE OF TERMINATION

To terminate coverage under the Construction General Permit, a Notice of Termination (NOT) must be submitted. The NOT is a two-page form that is submitted to the Los Angeles Regional Water Quality Control Board when the construction project is complete and the following conditions have been met:

(1) All elements of the SWPPP have been completed;

(2) Construction materials and waste have been properly disposed;

(3) The site is in compliance with all local storm water management requirements;

(4) A post-construction storm water operation and management plan is in place.

The Planning Division of the Port of Long Beach prepares and submits the NOT for construction projects within its Harbor District.

Table 1. Summary of SWPPP Amendments or Revisions

Section and Page	Summary of Revision	Name/Title and Date

Table 2. Contractor/Subcontractor List

Contractor/Subcontractor	Contact Name	Phone Number

2.0 SITE DESCRIPTION

Develop a narrative description of the construction project and site including the project owner, the facility or project name, the type of structure or facility proposed, a general description of location including city, county and state and regional (highway) and local (local roads) access.

This SWPPP was prepared for construction activity at…

Utilize existing construction drawings or develop site maps that depict the information noted below. Type "Yes" or "N/A" in the first (Shown) column to indicate that the information has been shown on a construction drawing or site map.

A vicinity map for the construction project site is provided in Appendix B. Appendix B also includes other site maps and/or construction drawings that depict the following information:

Shown	Information Element on Drawing or Map
	Construction site perimeter, roadways, lots
	General topography before and after the project
	Drainage patterns and slopes anticipated after major grading activities are completed
	Existing and planned paved areas and buildings
	Areas of vegetative cover which will remain undisturbed during the construction project
	Areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by BMPs
	An outline of areas of planned soil disturbance including cut and fill areas which will not be stabilized and will therefore require alternative erosion control measures
	Locations where the construction site's storm water discharges to a municipal storm water drainage system or receiving water
	On-site surface water bodies (including wetlands)
	Off-site areas that drain onto or through the site (storm water run-on). Show storm water inlets or receiving waters on the construction site
	Temporary on-site drainage BMPs to control erosion and to prevent damage to downstream properties

Shown	Information Element on Drawing or Map
	Existing site features that may contribute pollutants to storm water
	Locations of primary site entrance and exit points
	Areas designated for the a) storage of soil or wastes, b) vehicle storage and service areas, c) construction material loading, unloading, access and storage areas and d) equipment fueling, storage, and maintenance areas
	Drainage patterns into each on-site storm water inlet point or into receiving waters
	Locations of major structural and nonstructural controls identified in the SWPPP including: – BMPs that will protect on-site storm water inlets or receiving water discharge points – Run-on (runoff from off-site areas which enters the construction site) control BMPs – Locations where stabilization practices are planned

2.1 Existing Site Conditions

Describe the physical nature of the site including:

- ☐ ***previous land use,***
- ☐ ***any existing site features (irrigation canals, old structures, etc.),***
- ☐ ***the number of acres (or square feet) the project site covers,***
- ☐ ***how much of the site property will be used for the planned facility/structure,***
- ☐ ***surface elevations,***
- ☐ ***soil characteristics and types,***
- ☐ ***drainage,***
- ☐ ***vegetation, and***
- ☐ ***water table depth.***

Previously, the project site was …

2.2 Proposed Construction Activities

Describe the project elements including:

- ☐ ***Identify the main project components (e.g., buildings, turbine generators, heat recovery steam generator, etc) including the function of the project (e.g., low-density residential, shopping mall, highway, power plant, etc.)***

- ☐ ***Identify other relevant project features: a transformer yard, a switchyard, a cooling water system, wastewater treatment/disposal system, a service building, and miscellaneous pre-engineering buildings, and plant roadways***
- ☐ ***Describe project site drainage features and reference drainage plan if available.***
- ☐ ***Describe demolition activities, if any.***

The primary structural components of the ***(insert project name)*** to be constructed onsite are

(***Modify the following text accordingly.)***

Project site grading will occur on approximately ***(insert number***) percent of the site. This grading includes both cut and fill, and the total graded material is estimated to be (insert number) cubic yards. Graded materials are expected to be (***balanced on site / hauled away***).

(If different portions of the site will be disturbed at different stages of the construction process, that staging process and the relevant information should be provided.)

2.3 Storm Water Run-on from Offsite Areas

There is no anticipated offsite run-on to this construction site because … (***Describe reasons for no offsite run-on.***)

2.4 Runoff-Coefficient

Runoff coefficients before and after construction must be provided in the SWPPP. These coefficients are used to help determine pollutant loadings, potential hydraulic impacts to receiving waters and flooding impacts. They are also used in the design of post-construction permanent storm water management measures.

Runoff coefficients can be estimated from site plan maps, which show where impervious surfaces, vegetation and permeable surfaces will be. Use the following steps to calculate overall site runoff coefficients for both pre- and post-construction conditions at the site:

1. ***determine the areas of pervious and impervious surfaces,***

2. multiply the pervious area by 0.15 and the impervious area by 0.85 and add the totals and
3. divide by the total site area to obtain the average site runoff coefficient.

If the pre- and post-construction areas consist of several different types of impervious areas, it may be necessary to use professional judgement in determining specific runoff coefficients for the different land surfaces. Insert the results of the calculations for pre and post-construction runoff coefficients in the following paragraph.

The site is currently nearly (***insert number***) percent pervious surface with an estimated runoff coefficient of (***insert range of runoff coefficients***). After construction is completed, the site is estimated to be approximately (***insert number***) pervious surface area with a runoff coefficient in the range of ***(insert number***) to (***insert number***).

2.5 CONSTRUCTION SCHEDULE

A construction activity schedule, describing all major activities such as mass grading, paving, lot or parcel improvements at the site and the proposed time frame to conduct those activities, is provided in Table 3. The schedule will be updated on a regular basis to show changes in start or completion dates.

Table 3. Construction Activity Milestones

Milestone	Start Date	End Date
Date Notice of Intent (NOI), vicinity map and filing fee submitted to SWRCB		
Prepare SWPPP. A construction site is covered by the General Permit upon filing a complete NOI and implementation of a defensible SWPPP.		
Wet season dates	11-01-xx	04-15-xx
Dry season dates	04-16-xx	10-31-xx
Initial ground-breaking (must occur after completion of SWPPP and submittal of NOI)		
Grading/excavation/trenching activities		
Paving activities		
Implement erosion control measures		
Implement sediment control measures		
Construction of structures and paved surfaces		
Site clean-up		
Anticipated construction completion date		
Anticipated filing of Notice of Termination (NOT) to Los Angeles Regional Board.		

Source: Fresno Metropolitan Flood Control District Model SWPPP

2.6 POTENTIAL CONSTRUCTION SITE POLLUTANTS

As with most construction sites, pollutants have a potential to be present in storm water discharges during construction if no BMPs are implemented. Table 4 lists common construction products and construction site activities and the associated potential pollutants.

Table 4. Typical Construction Site Pollutants

Insert "X" if Present	Products/Activities With Potential To Cause Storm Water Pollution	Associated Potential Pollutants
	Grading activities	Sediment
	Disturbance of contaminated soil	Sediment List identified soil contaminant
	Adhesives, glues, resins, epoxy synthetics, caulks, sealers, putty, sealing agents and coal tars (Naphtha, Pitch)	Phenolics, formaldehydes, asbestos, benzene, phenols and naphthalene
	Polishes (metal, ceramic, tile), etching agents, cleaners, ammonia, lye, caustic sodas, bleaching agents and chromate salts	Metals Acidity/alkalinity Chromium
	Solder (lead, tin), flux (zinc chloride), pipe fitting, galvanized metal in nails and fences, and electric wiring	Lead, copper, zinc and tin
	Paint thinners, acetone, methyl ethyl ketone, stripper paints, lacquers, varnish, enamels, turpentine, gum spirit, solvents, dyes, stripping pigments and sanding	VOCs, metals, phenolics and mineral spirits
	Sawdust, particle board dust and treated woods	BOD, formaldehyde, copper and creosote
	Cement and brick dust, colored chalks, concrete curing compounds, glazing compounds and surfaces cleaners	Sediments, acidity, metals and asbestos
	Tile cutting, flashing, drywall and adhesives	Copper, aluminum, sediments and minerals
	Venting systems and the use of insulation, brick, cement and drywall and from saw cutting during remodeling and demolition	Asbestos, aluminum and zinc
	Yard operation and maintenance procedures such as vehicle and machinery maintenance, grading, earth moving, fire hazard control (herbicides), pest control, vehicle washing and the use of gasoline, oils, additives, marking pens and sprays and portable toilets	Oils and grease, coolants, benzene and derivatives, vinyl chloride, metals, sediments, BOD, disinfectants, pathogens, sodium arsenite, dinitro compounds, rodenticides, insecticides, herbicides and concrete
	Insulation, coolant reservoirs and adhesives	Asbestos and freon
	Planting and plant maintenance, excavation, tiling, masonry, the exposing of mineral deposits, the revegetation of graded areas, and the use of soil additives and well as the production of solid waste such as trees, shrubs, green waste and mulch	Pesticides, herbicides, nutrients, sediment, BOD, acidity/alkalinity, metals, aluminum sulfate, sulfur and fertilizers
	Wash waters	Concrete, sediment, oil and grease, detergents
	Saw Cut Slurries	Concrete, asphalt, sediment
	Hydrostatic test water, pipe flushing	Sediment
	Demolition	Trash and debris

3.0 BEST MANAGEMENT PRACTICES

This section contains a series of Best Management Practices (BMPs) to eliminate or reduce pollutants in storm water runoff from the project site during construction. The Construction General Permit prohibits the discharge of storm water that causes or threatens to cause pollution, contamination or nuisance. It also allows the developer/ owner to choose the most economical, effective, and possibly innovative best management practices (BMPs) to reduce or eliminate pollutants in runoff. These Construction General Permit requirements must be met, not only during the wet season, but also on a year-round basis. The SWPPP must be implemented in a proactive manner during all seasons until the construction project is complete.

3.1 EROSION CONTROL AND SITE STABILIZATION

3.1.1 Erosion and Sediment Control

The requirements for erosion and sediment controls for construction activities in the Construction General Permit have the following goals and criteria:

- Construction phase erosion and sediment controls should be designed with the objective to retain sediment on site;
- Control measures must be properly selected and installed in accordance with sound engineering practices and manufacturer's specifications;
- Off-site accumulations of sediment must be regularly removed to minimize impacts;
- Sediment should be removed from sediment traps when the design capacity has been reduced by 50%;
- Litter shall be prevented from entering a receiving water; and
- Off-site material storage areas must be addressed in the SWPPP.

As a rule, native vegetation in undisturbed areas represents the "baseline" for erosion control. Thus, retaining native vegetation in undisturbed areas provides the first and best line of defense against erosion and sedimentation, and at the least cost to the contractor.

The erosion and sediment control measures denoted with an "X" will be implemented and maintained at the project construction site.

Choose one or more of the following by typing an "X" in the first column.

	Before commencing grading or clearing, steep slopes and areas adjacent to water bodies will be stabilized. Stabilization will be accomplished with vegetative cover including grass, trees, vines, shrubs, etc. or with nonvegetative controls such as geotextiles, riprap or gabions (wire mesh boxes filled with rock), and mulches such as straw or bark in conjunction with vegetation.

	To prevent transport of sediment into existing storm drain inlets and onto adjacent properties and roadways, before grading or clearing, the site perimeter will be stabilized (preferably through preservation of buffer strips of vegetation); storm drain inlets will be protected; and sediment basins (if applicable) will be constructed.
	Before commencing grading or clearing of the site, clearing limits, easements, setbacks, and vegetation to be preserved will be delineated by marking in the field.
	Site disturbance and vegetation clearing will be minimized.
	During the rainy season, disturbed areas of the construction site that will not be re-disturbed for 21 days or more will be stabilized within 7 days of the last disturbance.
	Vegetated buffer areas adjacent to water bodies and on steep slopes will be preserved.
	Runoff velocities, both on slopes and at discharge points, will be retarded to prevent erosion.
	The wetting down of exposed soil for dust control during construction shall be done in such a manner that no runoff is generated.
	Temporary silt fences along site perimeters will be constructed and maintained at the toe of exposed and erodible slopes downslope of exposed soil areas or around temporary soil stockpiles to allow sediment to settle from runoff before water leaves the site.
	Baled hay or straw dams will be constructed and maintained at the toe of exposed and erodible slopes downslope of exposed soil areas or around temporary soil stockpiles to allow sediment to settle from runoff before water leaves the site.
	Diversion ditches to prevent run-on from off-site areas will be constructed and maintained.
	Check dams or other energy dissipation structures in unlined drainage channels will be built to slow runoff velocity and encourage settlement of sediment.
	Temporary earth berms and ditches will be constructed and maintained to divert storm flow from an erodible surface to a public roadway.
	Level spreaders, outlets for dikes and flow channels consisting of an excavated depression constructed at zero grade across a slope, will be used to convert concentrated runoff into diffuse flow to be released onto areas stabilized by existing vegetation.
	Reasonably available control measures will be implemented, installed and maintained to control fugitive dust release from the construction site.
	As new storm drain inlets/catch basins are constructed to collect on-site storm flows to the surrounding drainage system and/or project storm sewer system, loose sediment shall be prevented from entering the storm drain inlet by employing an appropriate storm drain inlet protection technique such as filter fabrics, block and gravel filters, gravel and wire mesh filters, or sand bag barriers. These storm drain inlet protection techniques shall remain in place until the site paving and stoning/graveling is completed.
	A sedimentation basin will be utilized to remove sediment from dewatering waters prior to discharge.

	Storm water sediment basin(s) will be constructed early in the site grading process to collect sediment from all areas during construction. The sediment basin will follow one of the four design options summarized below: 1. A sediment basin designed pursuant to local ordinance provided that the design efficiency is as protective or more protective of water quality than Option No. 3 2. A sediment basin designed with a minimum capacity of 3,600 cubic feet of storage per acre of disturbed land in a watershed equivalent to or more efficient than Option No. 3 3. A sediment basin designed using the following equation: $\mathbf{(V) = 1.2(SD)Q/Vs_{ED}}$ **where:** **V** = settling zone volume, **Q** = flowrate based on peak discharge from a specified design storm, and $\mathbf{Vs_{ED}}$ = settling velocity of the design soil particle. 4. A basin designed using an equivalent surface area design equation, equivalent to or more efficient than Option No. 3
	Dewatering of the basin must occur within 7 days following the storm event. The outflow from the basin must be designed to prevent erosion and/or scouring of the basin embankment and channel.
	Soil stabilizers, binders, blankets (i.e., rolled erosion control products), mulches, matrices, temporary vegetation, and temporary seeding will be used on disturbed soil areas as a temporary surface cover until soils can be prepared for revegetation and permanent vegetation is established.
	Permanent seeding, sodding, or planting will be performed on areas of disturbed soil that are complete or nearly complete to prevent erosion and remove pollutants in storm water and non-storm water runoff.
	Earthen dikes and drainage swales will be installed to convey surface runoff down sloping land, to intercept and divert runoff to avoid sheet flow over sloped surfaces and to direct runoff towards a stabilized watercourse, drainage pipe or channel.
	Brush, sandbag, and straw bale barriers, fiber rolls and/or silt fences will be installed as temporary sediment barriers in areas where sheet flow runoff occurs. They are ineffective if the runoff is concentrated into rill or gully flow. These devices will be installed to reduce the velocity of sediment-laden runoff to allow sediments to settle out.
	All cut and fill slopes will be roughened perpendicular to the direction of runoff by trackwalking, sheepsfoot rolling, imprinting, or other appropriate technique.
	Pipe slope and/or subsurface drains will be installed to protect slopes against erosion by collecting surface runoff from the roadbed, the tops of cuts or from benches in cut or fill slopes and conveying it down the slope to a stabilized drainage ditch or area.
	Rock outlet protection (i.e. rip rap) will be placed at pipe outlets to prevent scour and reduce the velocity and/or energy of exiting storm water flows.
	The area will be swept thoroughly, manually of mechanically, to remove as much street sediment as possible.

Locations for specific erosion and sediment control measures for the project are included on the site map(s) or Contractor Drawing No. ***(insert drawing number and title of drawing)*** prepared by ***(insert name of firm)*** and contained in Appendix B of this SWPPP.

3.1.2 BMPs to Minimize Off-Site Tracking

The BMPs denoted with an "X" will be implemented to control off-site tracking of sediment:

Choose one or more of the following by typing an "X" in the first column.

	Before grading or clearing the site, designated and stabilized site access points for vehicle entry/egress will be provided and maintained or otherwise vehicle trackout of sediments will be prevented.
	A wheel wash facility will be constructed away from drainageways and graded to drain to a sediment catchment pit. Also, the wheel washing facility will be either bermed or surrounded by sandbags to prevent washwater from exiting the wash area.
	The construction site's entrances and exits shall be swept as needed to keep the adjacent streets clean of sediment.

3.1.3 Site Stabilization Practices

Retaining native vegetation in undisturbed areas provides the first and best line of defense against erosion and sedimentation cost. Where this retention of native vegetation is not possible, the Construction General Permit requires that stabilization be employed as soon as possible in critical areas.

Site stabilization measures for the project are denoted in Contractor Drawing(s) No. (insert drawing number and title of drawing) prepared by (insert name of firm). The drawings are contained in Appendix B of this SWPPP. The site stabilization measures that will be implemented are denoted with an "X".

Choose one or more of the following by typing an "X" in the first column.

	Native vegetation will be retained in undisturbed areas to the extent possible.
	Grading of the site will be phased to minimize the total area of exposed soil and the duration of exposure.
	During construction, exposed areas will be stabilized with temporary ground cover (e.g., temporary seeding, mulch, chemical and fabric stabilizers), to protect the soil from erosion until permanent vegetation or other site stabilization features are installed.
	After the project is completed, selected areas of the site (e.g., roadways and parking areas) will be paved with bituminous asphalt, concrete, or approved equivalent. The remainder of the site (not covered with structures and facilities) will be stabilized with either of the two following methods: 1. A uniform vegetative cover with 70 percent coverage, or 2. Equivalent stabilization measures such as geotextile blankets (i.e. with vegetative seeds), channel liners, soil cement, fiber matrices, or other erosion resistant soil coverings

3.2 OTHER CONTROL MEASURES

This construction project will also employ BMPs that will address potential construction site pollutants other than sediment from erosion.

3.2.1 Waste Management and Disposal

Construction sites can generate any of the following non-hazardous and hazardous wastes:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures and building construction
- Packaging materials including wood, paper and plastic
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces and masonry products
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags and plastic wrappers and cigarettes
- Paints, solvents, petroleum products such as oils, fuels and grease, herbicides and pesticides, acids and concrete curing compounds

The BMPs that are denoted with an "X" shall be implemented to keep a clean site and reduce the potential for non-hazardous and potentially hazardous waste from coming in contact with storm water or non-storm water discharges:

Choose one or more of the following by typing an "X" in the first column.

	After existing facilities are demolished, any materials not re-used on-site will be either loaded directly onto waste hauler trucks for off-site removal the same day, or will be collected and stored in dumpsters (roll-offs) until off-site removal is accomplished.
	If any asbestos is discovered in the demolished materials, asbestos removal and disposal will be performed by a licensed contractor or licensed subcontractor trained in asbestos removal. All removal and disposal will be done in accordance with state and federal regulations. Any asbestos wastes stored on-site prior to removal will be stored within dumpsters (roll-offs) covered with tarps or other appropriate method to prevent contact with rain and minimize exposure to wind.
	The site will be kept clean of litter and waste.
	Waste materials will be segregated and recycled (e.g., paints, solvents, used oil, batteries, anti-freeze). Wastes will not be mixed since this can cause chemical reactions, will make recycling impossible and complicate disposal.
	Toxic wastes and chemicals will not be disposed of in dumpsters designated for construction debris.
	Covered waste bins will be designated for the disposal of all empty product (e.g., paints, solvents, glues, petroleum products, concrete, exterior finishes, pesticides, fertilizers, etc.) containers.
	All of a hazardous material will be used before disposing of the container.

	The original product label will not be removed as it contains important safety and disposal information.
	Secondary containment will be provided for hazardous waste containers.
	Site trash will be collected daily, especially during windy or rainy conditions, to maintain a clean construction site. Additional containers and more frequent pickup will be provided during the demolition phase of construction.
	Trash hauling contractors will be informed that only watertight dumpsters will be accepted for on-site use. Dumpsters will be inspected for leaks and any dumpster that is not watertight will be repaired.
	Storage of hazardous materials on site will be minimized. Any hazardous materials generated during construction will be containerized and kept closed during work activities, except for filing. Waste containers will be placed in a designated hazardous waste storage area that is covered and has an impermeable bottom surface surrounded by secondary containment to minimize the mixing of wastes with storm water and to prevent the direct release of liquid waste to storm water. The temporary storage and removal of hazardous wastes from the site will be in accordance with all applicable state and federal laws.
	When practical, non-hazardous site wastes (small enough to fit into dumpsters) will be stored within covered dumpsters and/or containers that prevent exposure to rain and prevent loss of wastes when it is windy.
	Dumpsters will not be hosed out on the construction site. Any required dumpster cleaning will be done off-site by the trash hauling contractor.
	Any solid waste that may accumulate at erosion and sediment control devices will be removed immediately.
	All local and state solid waste disposal and nuisance requirements will be followed.
	All federal, state, and local requirements for hazardous waste, contaminated soil and sanitary/septic waste management will be followed.
	Employees and subcontractors will be trained in proper waste management.

3.2.2 Compliance with State/Local Sanitary Waste Regulations

The following measures will be implemented to ensure compliance with state or local waste disposal, sanitary sewer or septic system regulations:

- Portable sanitary facilities will be transported to and from the site by a licensed contractor, placed in a convenient location and maintained in good working order by a licensed service.
- Untreated wastewater will never be discharged to surface waters or on-site storm drains and will never be buried.

3.2.3 Spill Prevention and Control

The measures that are denoted by an "X" will be undertaken at the site to prevent or reduce the discharge of pollutants to storm water from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees:

Choose one or more of the following by typing an "X" in the first column.

	Construction vehicles will be inspected daily, before use, for leaks and repaired as necessary.
	During on-site vehicle and equipment fueling, "topping-off" of fuel tanks will be discouraged, secondary containment such as a drain pan or drop cloth will always be used when fueling to catch spills/leaks.
	If a spill were to occur at the site, it will never be cleaned-up by hosing off the area. Dry material spills will never be hosed down or buried. The type of minor spill that could occur will be controlled as follows: 1. The site construction manager or his designated representative will be notified immediately. 2. The spilled material will be identified and the approximate quantity will be estimated. 3. The spread of the spill will be contained using absorbent material or barriers. 4. If the spill has occurred on a paved/impermeable surface, it will be cleaned up using dry methods (absorbent materials, cat litter, and/or rags). Encircling it with absorbent materials will contain the spill. If the spilled material is hazardous, then the used cleanup materials are also hazardous and will be sent to either a certified laundry (rags) or disposed of as hazardous waste. 5. If the spill has occurred on an unpaved or permeable surface, constructing an earthen dike will immediately contain the spill. The contaminated soil will be excavated and properly disposed of. 6. If the spill has occurred during a rain event, the area will be covered as quickly as possible. The spill will be cleaned up as soon as possible after cessation of rain.
	Spill cleanup materials will be stored near potential spill areas (e.g., painting, vehicle maintenance areas).
	The Construction Environmental Coordinator shall coordinate any required spill reporting. Table 5, SWPPP Reportable Quantity Releases, should be completed for any spill that meets the reportable quantity threshold.

Table 5. SWPPP Reportable Quantity Releases

This table will be completed for any Reportable Quantity spill (as established under 40 CFR Part 110[1], 40 CFR Part 117[2], or 40 CFR 302[3]) that occurs on site.

Date of Spill	Material Spilled	Approximate Quantity	Agencies Notified	Date Notified

1 40 CFR Part 110 addresses the discharge of oil in such quantities as may be harmful pursuant to Section 311(b)(4) of the Clean Water Act.

2 40 CFR Part 117 addresses the determination of such quantities of hazardous substances that may be harmful pursuant to Section 311(b)(3) of the Clean Water Act.

3 40 CFR Part 302 addresses the designation, reportable quantities, and notification requirements for the release of substances designated under Section 311(b)(2)(A) of the Clean Water Act.

3.2.4 Vehicle and Equipment Cleaning, Fueling, and Maintenance

As with most construction sites, vehicle and equipment cleaning, fueling, and maintenance have the potential to contribute to storm water pollution. This potential can be reduced by using off-site facilities whenever feasible, performing work in designated areas only, running a "dry site" and training employees and subcontractors.

The measures that are denoted with an "X" will be undertaken at the site to prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning, fueling and maintenance:

Choose one or more of the following by typing an "X" in the first column.

	Vehicle and equipment fueling, cleaning and maintenance will be conducted off-site.
	Vehicles and equipment will be fueled on-site by a mobile vehicle fueling truck, and only minor amounts of fuel will be stored in a covered storage area (e.g. construction warehouse, trailer, shed).
	Construction vehicle maintenance will be performed off site, when feasible. Only minor amounts of lubricants and other vehicle and equipment fluids will be stored in a covered storage area (e.g. construction warehouse, trailer, shed).
	Areas will be designated for on-site fueling and maintenance away from storm drain inlets and surface water bodies.
	Spills and leaks during fueling and maintenance operations will be prevented or contained and cleaned up immediately.
	Vehicles, equipment, and tanks will be checked for leaks and spills regularly.
	Drip pans or adsorbent materials will be placed under leak-prone machinery when idle.
	Steam cleaning will not be permitted on-site since steam cleaning can generate significant pollutant concentrations.
	All vehicle, equipment, and machinery washing will be done off-site at commercial wash facilities or at a facility that is properly permitted and discharges wash water to a recycle/reuse system or to the sanitary sewer.
	Vehicles and equipment may be washed on-site. A designated, bermed wash area will be used to prevent wash water from contacting storm water or discharging into creeks, rivers, and other water bodies. The wash area may be sloped for wash water collection and subsequent infiltration into the ground. As little water as possible will be used to avoid having to install erosion and sediment controls for the wash area.
	Vehicle, equipment, or machinery wash water will not be discharged to the storm drain system, surface water bodies or soils.
	Employees and subcontractors will be trained on proper vehicle maintenance and the need to conduct vehicle maintenance and cleaning off-site, when feasible.
	All federal, state and local requirements for fuel storage tanks will be followed.

3.2.5 Material Delivery and Storage

The discharge of pollutants to storm water from material deliveries and material storage areas will be prevented or reduced by the implementation of the material management BMPs denoted with an "X":

Choose one or more of the following by typing an "X" in the first column.

	Designate areas of the construction site for material delivery and storage. Material storage areas will be placed near construction site entrances, away from drain inlets, culverts and surface water bodies.
	Designated storage areas will be kept clean and well organized.
	An accurate, up-to-date inventory of materials delivered and stored on-site will be kept.
	Storage of hazardous materials on-site will be minimized and handled as infrequently as possible.
	The following types of materials will be stored in a covered storage area: fertilizers, herbicides, pesticides, detergents, fuels, oil, grease, glues, paints, plaster, solvents, curing compounds materials, and other similar materials that could be considered potential pollutants in storm water discharge.
	Any chemicals, drums or bagged materials not stored in a covered location, will be stored on pallets, and when possible in secondary containment.
	Secondary containment will be provided for liquids.
	Secondary containment areas will be covered to prevent accumulation of rainwater.
	Chemicals will be kept in their original containers, and will be well labeled.
	Regular inspections of storage areas will be conducted to monitor inventory and check for leaking containers.
	State and local requirements for storage of hazardous materials will be followed.
	Employees and subcontractors will be trained on proper storage practices

3.2.6 Concrete Materials Management

The BMPs that are denoted with an "X" shall be implemented to control potential pollutants from concrete wastes:

Choose one or more of the following by typing an "X" in the first column.

	No raw cement materials will be stored on site.
	Concrete trucks and transfer chutes will be washed-out on-site utilizing a sediment catchment pit to collect all washwater and concrete waste. The pit will be regularly maintained to prevent concrete waste build-up. The catchment pit will be sized so that no washwater will be discharged off-site. The washout area will be at least 50 feet from storm drains, open ditches or water bodies.
	Any concrete sawcutting wastewater will be contained on site.
	No concrete washout water or concrete sawcutting wastewater will be discharged off-site.
	Sandbags will be used to prevent off-site discharge of saw-cut slurry and sediment will be cleaned up when dry.
	On a regular basis during concrete work, solid concrete that has accumulated on-site will be broken up, removed and hauled away. Washing of fresh concrete will be avoided to the extent possible.
	Excess concrete will not be dumped on-site, except in designated areas.

	Sweepings from exposed aggregate concrete will not be washed into the street or storm drain. The sweepings will be collected and returned to the aggregate stockpile or disposed in the trash.
	Employees and subcontractors will be trained in proper concrete waste management.

3.2.7 Painting Materials Management

The BMPs that are denoted with an "X" will be implemented to reduce potential pollutants from any painting activities that may occur during construction:

Choose one or more of the following by typing an "X" in the first column.

	Paint brushes, paint containers, or any other chemical-holding containers will not be rinsed or cleaned onto dirt, stone or paved areas of the site, or into streets, gutters, storm drains, or drainage channels (natural or man-made). Brushes will be "painted out" as much as possible. Water-based paints will be rinsed into waste buckets to be disposed to the sanitary sewer (off-site). Thinners and solvents will be filtered and re-used to the extent feasible. Excess oil-based paints and sludge will be disposed in accordance with applicable waste regulations.
	All paints, thinners and solvents will be stored in a covered storage area.
	Outdoor painting will not be conducted during rain events.
	Waste from scraping or sandblasting will be collected for proper disposal.
	Painting operations will be properly enclosed or covered to avoid drift.
	Southern California Air Quality Management District (SCAQMD) and OSHA standards for wind drift while painting will be followed. SCAQMD regulations may, in many areas, specify painting procedures that, if properly carried out, are usually sufficient to protect storm water quality.
	Paint will be mixed indoors or in a containment area.

3.2.8 Paving Operations Management

The BMPs that are denoted with an "X" will be implemented to reduce potential pollutants from any paving activities that may occur during construction:

Choose one or more of the following by typing an "X" in the first column.

	Paving materials (e.g. asphalt, sand, gravel, coating and sealing products) will be prohibited from entering storm drain systems or surface water bodies.
	Excess materials (e.g. asphalt, concrete) will be collected, properly stored, and then disposed upon completion of paving operations.
	The spillage of cleaning materials will be avoided when cleaning paving equipment on-site.
	Secondary containment will be used to catch drips, leaks or spills.
	Paving materials and machinery will be stored away from storm drains and water bodies.
	Paving will not take place within 72 hours of a predicted storm event.
	Paving during rainfall will be prohibited.

	Drainage courses will be protected, particularly in areas with a grade, by employing BMPs to divert runoff or trap/filter sediment.
	Catch basins and manholes will be covered when applying seal coat, tack coat, slurry seal, fog seal, etc.
	Saw-cut slurry will be shoveled, vacuumed and removed from site. Storm drains will be covered or barricaded during saw cutting to contain slurry.

3.2.9 Landscaping Activities Management

The BMPs that are denoted with an "X" will be implemented to reduce potential pollutants from any landscaping activities that may occur during construction:

Choose one or more of the following by typing an "X" in the first column.

	Only trained personnel, certified in accordance with federal and state regulations, will perform pesticide application.
	Recommended usage instructions will be followed for application of pesticides, herbicides and fertilizers.
	Herbicides and pesticides will not be over applied. Only the amount needed will be prepared.
	Application of pesticides, fertilizers and herbicides will be avoided when precipitation is forecasted and will be prohibited during precipitation events.
	Fertilizers will be applied in multiple smaller applications, as opposed to one large application.
	Vegetative debris will be disposed as green waste or solid waste.

3.2.10 Non-Storm Water Discharges

The elimination or reduction of non-storm water discharges to the storm drain system or receiving waters is a major goal of the Construction General Permit. Non-storm water discharges to the storm drain system and receiving waters should be eliminated or reduced to the greatest extent possible. Non-storm water discharges can be either direct discharges (e.g. pumped contaminated groundwater) or can result from dumping, washing, spills or leakage from storage tanks or transfer areas. To the greatest extent possible, the Site Operator will operate a dry construction site. Non-storm water flows will not be discharged in an uncontrolled fashion onto the construction site or into storm drains.

3.3 Post-Construction Storm Water Management Measures

Once construction has been completed, activities at the site have an ongoing potential to cause storm water pollution. Post-construction storm water management measures to reduce pollutants in storm water discharges will be implemented after all construction phases have been completed at the site. Post-construction BMPs consist of permanent features and operational practices designed or implemented to minimize the discharge of pollutants in storm water or non-storm water flows from the site once construction is completed and the facility is operational. Proper operation and maintenance is important for permanent structural BMPs so that they continue to function as designed. This is especially important for treatment controls (e.g., on-site retention or detention basins, vegetated swales, catch basin filters or

inserts), since their routine maintenance involves activities such as sediment removal, vegetation management, and replacement of filters or inserts.

Post-construction BMPs, both permanent structural and operational practices, are considered and selected during the planning phase of projects within the Port. The post-construction BMPs applicable to this project are described in Appendix C, which has been developed by the Port's Planning Division. Appendix C also describes the operation and maintenance procedures necessary to ensure proper function of permanent structural BMPs and the entity or entities responsible for their operation and maintenance.

4.0 MAINTENANCE, REPAIR, AND INSPECTION

4.1 MAINTENANCE

The SWPPP must include a written plan to address maintenance, inspection and repair procedures for all construction related BMPs so that all grade surfaces, walls, berms, drainage structures, vegetation, erosion and sediment control measures, and other controls are maintained in good and effective condition and are promptly repaired or restored. A qualified person must be assigned the responsibility to conduct these inspections and all completed inspection/maintenance forms must be kept with the SWPPP.

The goals of the inspection program are:

- To identify areas contributing to storm water discharge;
- To evaluate whether measures to reduce pollutants identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the Construction General Permit, and
- To evaluate whether additional control practices or corrective maintenance activities are needed.

Implementation of the maintenance activities denoted with an "X" will help ensure BMPs are functioning properly:

Indicate all of the following that apply by typing an "X" in the first column.

	Retention basin(s) shall be cleaned of accumulated sediment when sediment reaches 10 percent of the basin capacity. Removed sediment shall be properly transferred to a temporary soil storage area.
	Silt fences shall be inspected and sediment removed before the accumulation is one-third the height of the fabric. Tears, overtopped areas, or broken fabric attachment to posts shall be replaced or repaired immediately.
	Hay/straw bale dikes shall be replaced when strings break. Each bale shall have two stakes. Firm contact shall be maintained between adjacent bales.
	Storm drain inlet protections shall be inspected weekly and after each rain event to ensure no clogging has occurred. Replace clogged filter fabric or stone filters immediately. Remove accumulated sediment behind the filer when depth exceeds half the height of the filter.
	Diversion ditches and swales shall be maintained at the required depth. Settled sediment will be removed.
	Stabilized construction entrances/exits shall be inspected for the transport of sediment onto public rights-of-way before and after each rainfall. Stone/gravel material shall be replaced when surface voids are visible. Construction entrances shall be swept as needed to keep them clear of accumulated sediment.
	Dikes or berms will be inspected for washouts and repaired as required. Dikes or berms susceptible to erosion will be armored with stone.

	Riprap will be inspected for evidence of movement or washout. Riprap experiencing movement or washout will be removed and carefully replaced individually in response to observed runoff flow patterns. Larger stones will be incorporated into the structure for anchoring and support where needed.
	Temporary stone filter dikes will be inspected and replaced when sediment impedes the effective functioning of the device.
	For temporary and permanent seeding used to stabilize exposed areas, the seeding will be inspected weekly during its period of establishment for bare spots and areas of insufficient germination or growth. Remedial action will be taken to establish surface cover in these areas once identified.
	If seeding is not used to stabilize exposed areas, a stabilizing layer of gravel will be placed.
	Maintenance of waste management BMPs includes daily collection of site trash, inspection of the construction site waste area before and after rain events, and arranging for regular waste collection.
	The concrete truck washout drainage collection pit will be regularly maintained to ensure adequate capacity to contain washwater and prevent overflow.
	Maintenance of truck wheel washing shall include inspection of accumulated sediment in the drainage pit (to be cleaned when accumulated sediment reaches 10 percent of capacity) before and after rain events and berm repair as needed.
	The covered material storage area shall be kept clean and organized.

4.2 INSPECTIONS

At a minimum maintenance inspections will be conducted:

- Prior to every forecasted event;
- Once each 24-hour period during extended storm events;
- After every storm event that produces observable runoff.

Pre-storm inspections are to ensure that all BMPs are in place and post-storm inspections are to determine whether the BMPs have functioned properly. If the required site inspections identify controls that are not operating effectively, maintenance shall be performed before the next anticipated storm event or as necessary to maintain the continued effectiveness of the controls. Written documentation of the inspection shall be maintained for three years. A sample BMP inspection report form is contained in Appendix D. ***(If the example BMP inspection report form provided in Appendix D will not be used, it should be replaced by the form that will be used onsite.)***

5.0 TRAINING

The SWPPP must include procedures to ensure that all personnel implement the SWPPP and that trained personnel perform the inspections. When properly trained, site personnel are more capable of managing materials properly, preventing spills, and implementing BMPs efficiently and correctly. Personnel at all levels shall be trained in the components and goals of the Construction General Permit. Specifically, employees of the Contractor and any subcontractors working on the construction site shall be informed of the goals of the storm water pollution prevention plan at a training meeting prior to commencing construction activities. The training meeting shall cover basic storm water information as well as the specific requirements of the Construction General Permit. Specifically, the meeting will focus on implementation, inspection, and maintenance of storm water BMPs. Employees responsible for implementing, inspecting, maintaining, or repairing storm water BMPs will receive copies of relevant portions of the SWPPP. The Construction Environmental Coordinator shall train all new employees and subcontractors before they will be permitted to work on the site. For projects that start during the dry season, refresher sessions on storm water pollution control will be conducted prior to the wet season. Additional training will be provided as necessary based on site inspections and evidence of storm water quality problems. A sample form "Record of SWPPP Training Sessions" is contained in Appendix E. ***(If the example form provided in Appendix E will not be used, it should be replaced by the form that will be used onsite.)***

6.0 RESPONSIBILITIES OF OPERATORS

The following sections describe the responsibilities of Site Operator with regard to effective SWPPP implementation. (***The following titles and roles may be changed as appropriate.***)

6.1 SITE MANAGER

The Site Manager has the overall responsibility for SWPPP implementation, ensuring that materials and manpower are made available for the successful maintenance of all erosion and sediment control and other BMPs specified in the SWPPP.

6.2 PROJECT FIELD ENGINEER

The Project Field Engineer shall be responsible for:

- maintaining an up-to-date copy of this SWPPP onsite at all times, from commencement of construction to final site stabilization;
- making a copy of the SWPPP available for inspection by outside authorized regulatory authorities upon request;
- documenting any revisions to the SWPPP in Table 1 of the SWPPP;
- documenting in Table 2 of the SWPPP any changes in contractors/subcontractors and ensuring the new contractors/subcontractors are made aware of their responsibilities in this SWPPP;
- ensuring that field engineering activities are planned and conducted in accordance with the SWPPP;
- directing ongoing regular BMP maintenance activities (e.g. silt fence repair, hay bale replacement, sediment removal in retention basin, timely waste disposal, etc);
- implementing and overseeing necessary corrective actions to the erosion/sediment control devices and other BMPs identified by the Construction Environmental Coordinator during regular site inspections; and
- maintaining all site records pertaining to inspection and maintenance of erosion and sediment controls and other BMPs as well as records detailing the dates on which major construction activities began and were completed.

6.3 CONSTRUCTION ENVIRONMENTAL COORDINATOR

The Construction Environmental Coordinator is responsible for all environmental compliance activities at the construction site including storm water pollution prevention. Specific duties are as follows:

- Conducting Environmental Awareness Training for site personnel (including subcontractor personnel). This involves increasing awareness of the need to comply with the SWPPP which includes: minimizing sediment in storm water discharges off-site as well as keeping a clean site and minimizing the potential for construction materials and wastes from entering storm water discharges.

- Conducting regular documented inspections of erosion and sediment control devices and other BMPs contained in this SWPPP (as discussed in Section 4.0). The findings of these inspections are discussed with the Project Field Engineer who in turn makes available the necessary resources to repair/replace any defective control devices identified in the inspection.
- Conducting regular site environmental inspections and noting the conditions of those areas onsite that have the potential to result in pollution of storm water. Results of these inspections are discussed with the Project Field Engineer and any corrective actions necessary performed under the Project Field Engineer's oversight. Required documentation of the inspections and any corrective actions will be kept on site.
- Acting as the site spill coordinator to document spills, direct clean-up activities, minimize impact to storm water, and ensure that the proper reporting, if necessary, is completed.

6.4 SUBCONTRACTORS ADMINISTRATOR

The Subcontracts Administrator is responsible for ensuring that all subcontractors involved with construction activities, which may potentially affect storm water quality at the site, are made aware of, and their contracts reflect that they must comply with the applicable provisions of this SWPPP.

7.0 MONITORING AND REPORTING PROGRAM

7.1 SITE INSPECTIONS

Site inspections as described in Section 4.2 are a component of the monitoring and reporting required under the Construction General Permit.

7.2 COMPLIANCE CERTIFICATION

Certification that the construction activities are in compliance with the Construction General Permit, as described in Section 1.5, is a component of the monitoring and reporting required under the Construction General Permit.

7.3 NONCOMPLIANCE REPORTING

The Construction General Permit requires that any instances of noncompliance with the requirements of the Construction General Permit shall be reported to the Los Angeles Regional Board within 30 days. Further, the Planning Division of the Port of Long Beach requires that any instances of noncompliance with the requirements of the Construction General Permit must be reported to them within 48 hours of detection of the noncompliance. The notification of noncompliance shall describe the noncompliance event, including an initial assessment of any water quality impact, the actions necessary to achieve compliance, and a time schedule for achieving compliance. A form that may be used for non-compliance reporting is included in Appendix F.

7.4 REQUIREMENTS FOR SAMPLING AND ANALYSIS

The SWRCB Resolution No. 2001-046 requires that specific sampling and analytical procedures be implemented to determine whether BMPs implemented on a construction site are:

- Preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired (Clean Water Act Section 303(d) List) for sediment, silt, or turbidity; and
- Preventing other pollutants that are known or should be known by dischargers to occur on construction sites and that can not be visually observed or detected in storm water discharges, from causing or contributing to exceedences of water quality objectives.

The Harbor District under the jurisdiction of the Port of Long Beach does not currently discharge storm water directly to water bodies listed on the 303(d) List as impaired for sediment/siltation or turbidity. Therefore, a sampling and analysis plan for sediment or turbidity is not required.

Sampling and analysis for pollutants that cannot be visually detected is required under the following conditions:

- Visual inspections, which are currently required before, during and after storm events, indicate that there has been a breach, malfunction, leakage or spill from a BMP that could result in the discharge of pollutants in storm water and the pollutants would not be visually detectable; or

- Storm water that comes into contact with soil amendments, other exposed materials, or site contamination will be discharged from the construction site.

Comprehensive and diligent implementation, inspection, maintenance, and repair of BMPs are critical and should prevent the need for sampling and analysis. However, a contingency Sampling and Analysis Plan must be developed. A Sampling and Analysis Plan template is included in Appendix G.

Appendix A

General Discharge Permit for Storm Water Discharges from Construction Activities Disturbing Five or More Acres

Appendix B

Vicinity Map and Site Map(s)

Appendix C

Post-Construction BMPs

Appendix D

Construction Site Inspection Report Form

Construction SWPPP BMP Inspection Checklist			
Project Location:			**Weather**
Date of Inspection:			**Storm Start Time:**
Inspector			**Duration of Storm:**
Name (print):			**Time Since Last Storm:**
Title:			**Approximate Rainfall (in):**
Signature:			**Type of Inspection:** ☐ **Pre-storm** ☐ **Storm event** ☐ **Post-storm** ☐ **Routine (dry season inspection)**
Telephone No:			
YES	**NO**	**1. Inspect the following BMPs 2. Check YES/ No 3. Describe Corrective Actions**	
		Does the Plan reflect current site conditions?	
		Has there been rain at the site since the last inspection?	
		Are the BMPs called for on the SWPPP installed in the proper location according to the specifications for the SWPPP and are they functioning properly?	
		Are all operational storm drain inlets protected from sediment inflow?	
		Do any structural practices require repair or clean-out to maintain adequate function? If yes, indicate which ones:	
		Is there evidence of equipment leakage/ spillage of equipment/vehicle maintenance fluids?	
		Are construction on-site traffic routes, parking, and storage of equipment and supplies restricted to areas specifically designated for those uses?	
		Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?	
		Are all materials and equipment properly covered?	
		Are locations of temporary soil stockpiles or construction materials in approved areas?	
		If present, are all exposed slopes protected from erosion through the implementation of acceptable soil stabilization practices?	
		Do any seeded or landscaped areas require maintenance, irrigation, fertilization, seeding or mulching?	
		If present, are sediment traps/basins installed and functioning properly?	
		Is there any evidence that sediment is leaving the site? Are all external discharge points (i.e. outfalls) reasonable free of any noticeable pollutant discharges, significant erosion or sediment transport? Are sediment controls in place at discharge points from the site?	
		Are slopes free of significant erosion?	
		Is there any evidence of sediment, debris, or mud on public roads at intersections with site access roads?	
		Is there any evidence of incorrect waste disposal (paints, concrete, solid wastes)?	
		Is the overall housekeeping sufficiently maintained?	

Construction SWPPP BMP Inspection Checklist (Continued)		
YES	**NO**	**1. Inspect the following BMPs 2. Check YES/ No 3. Describe Corrective Actions**
		Are vehicle/ equipment maintenance and cleaning areas clean and free of oil, grease or potential pollutants?
		Are all materials and equipment properly covered?
		Is the construction area access point stabilized? Has potential for mud/ dirt tracking from the site been minimized?
		Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
		Are liquid transfer areas (equipment fueling) clean and protected from rain?
		Are there any visible non-storm water discharges? Is there evidence that non-storm water discharges occurred in the past? If so, describe the non-storm water discharge:
If extreme weather conditions do not permit visual inspection of on-site BMPs, observe the following: Surface Water Outfall or Discharge Points:		
Downstream Locations:		
Describe Required Corrective Actions:		
Describe necessary revisions to the SWPPP:		

Appendix E

Training Reporting Form

Record of SWPPP Training Session				
Training Date:				
Instructor:				
Topics Covered:	☐ Inspections ☐ BMP Maintenance/Repair ☐ SWPPP BMPs ☐ Non-Storm Water Discharges ☐ Other (e.g., workshops offered by agencies, SWRCB/RWQCB, or professional organizations)			
Name	**Company**	**Telephone Number**	**SWPPP Responsibilities[a]**	**Received Complete SWPPP or Excerpt (Yes/No)**

(a) SWPPP responsibilities may include one or more of the following: BMP Installation, Inspection, Maintenance; Training; SWPPP Revisions, Non-Storm Water Discharges, Storm Water Sampling

Appendix F

SWPPP Non-Compliance Report Form

SWPPP NON-COMPLIANCE REPORT

Dischargers who cannot certify compliance with the permit and/or who have had other instances of non-compliance, excluding exceedances of water quality standards, shall notify the RWQCB within 30 days.

Inspector Name:	
Inspector Phone Number:	
Non-Compliance Identification Date:	

Description of Non-Compliance:
Initial assessment of any impact caused by the non-compliance:
Actions required to achieve compliance:
Time schedule of remediation activities:
When compliance will be achieved:

Appendix G

Sampling and Analysis Plan

(Note: A separate Word file was created for this appendix.)